UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

SEP 17 2014

CERTIFIED MAIL – RETURN RECEIPT REQUESTED
Article Number: 7005 3110 0000 5967 7636

Richard T. Fitamant, Executive Director
Middlesex County Utilities Authority
2571 Main Street
P.O. Box 159
Sayreville, New Jersey 08872-0159

Re: **Request for Information**
Docket No. CWA-IR-14-027
EPA/NJDEP Sanitary Sewer System Compliance Evaluation Inspectoin
October 30 and 31, 2013
Middlesex County Utilities Authority, Sayreville, NJ
NJPDES Permit Number: NJ0020141

Dear Mr. Fitamant:

Please find enclosed a Request for Information ("RFI") letter, which the U.S. Environmental Protection Agency ("EPA") Region 2 is issuing to the Middlesex County Utilities Authority ("MCUA") pursuant to Sections 308(a) of the Clean Water Act ("CWA"), 33 U.S.C. §1318(a). The EPA is issuing the RFI letter to require MCUA to provide specific information regarding the findings of the enclosed inspection report as well as effluent limit exceedances from its wastewater treatment plant ("WWTP")

Section 308(a) of the CWA, 33 U.S.C. §1318(a), provides that whenever it is necessary to carry out the objectives of the CWA, including determining whether or not a person/agency is in violation of Section 301 of the CWA, 33 U.S.C. §1311 or carrying out section 402 of the CWA, 33 33 U.S.C. §1342, the EPA shall require the submission of any information reasonably necessary to make such a determination. Under the authority of Section 308 of the Clean Water Act, EPA may require the submission of information necessary to assess any facility/site and its related appurtenances for compliance with and/or carrying out the provisions of the CWA.

On October 30 and 31, 2013 EPA along with representatives of the New Jersey Department of Environmental Protection ("NJDEP") conducted a Sanitary Sewer System Inspection of the MCUA collection system. The enclosed inspection report lists potential non-compliance items that must be corrected to ensure compliance with the Clean Water Act. In addition, and the enclosed report identifies areas of concern, which are items that should be addressed to improve the quality of the discharges and/or operation of the facility and ultimately comply with the New Jersey Pollutant Discharge Elimination System ("NJPDES") Permit, NJ0020141 ("Permit").

REQUEST FOR INFORMATION

MCUA is hereby required, pursuant to Section 308(a) of the Clean Water Act, 33 U.S.C. §1318(a), to submit the requested information regarding the subject construction site.

1. **Within forty five (45) calendar days** of receipt of this letter, respond to the EPA in writing with the actions (including a schedule) that MCUA has taken or will take to address:

   a. the areas of concern in the enclosed inspection report.

   b. potential non-compliance Item No. 1, the lack of flow minimization requirements during wet weather for industrial users in combined sewer areas that is required by Part IV.E.4.d of MCUA's Permit.

2. **Within ninety (90) calendar days** of receipt of this Request respond to EPA in writing with a plan along with a proposed schedule and cost estimates for achieving consistent compliance with effluent limits at MCUA's WWTP outfalls. The plan must include:

   a. mechanisms that MCUA has to significantly reduce the volume of inflow and infiltration from its participant (satellite) communities to protect the WWTP operations and infrastructure;

   b. an evaluation of increasing treatment capacity at the WWTP which includes achieving consistent compliance with MCUA NJPDES Permit limits by treating the range of expected flows at the WWTP.

   c. an evaluation of combining I&I reduction with increasing treatment capacity at the WWTP, essentially combining the plans for subparagraph a and b above.

CERTIFICATION

Any documents to be submitted by UTA of KJ as part of this Request for Information shall be sent by certified mail or its equivalent and shall be signed by an authorized representative of the respective entity (see 40 CFR §122.22), and shall include the following certification:

> "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

All information required to be submitted pursuant to this Request for Information shall be sent by certified mail or its equivalent to the following addresses:

Larry Gaugler, NPDES Team Leader
Water Compliance Branch
Division of Enforcement and Compliance Assistance
290 Broadway, 20th Floor
New York, NY 10007-1866

Marcedius T. Jameson, Director
Water and Land Use Enforcement
New Jersey Department of Environmental Protection
Mail Code 401-04F, 401 East State Street
P.O. Box 420
Trenton, NJ 08625-0420

Should you have any questions regarding this request, feel free to have your staff contact Larry Gaugler, NPDES Team Leader at (212) 637-3950.

Sincerely,

Doughlas McKenna, Chief
Water Compliance Branch
Division of Enforcement and Compliance Assistance

Enclosure

cc: Marcedius T. Jameson, Director, Water and Land Use Enforcement, NJDEP
Wolfgang Skacel, Assistant Commissioner, Compliance and Enforcement, NJDEP (w/enclosure)
Maureen Byrne, NJDEP via email
Melissa Hornsby, NJDEP via email

[x] **EPA**

United States Environmental Protection Agency
Washington, D.C. 20460

Water Compliance Inspection Report

Form Approved.
OMB No. 2040-0057

Section A: National Data System Coding (i.e., PCS)

Transaction Code	NPDES	yr/mo/day	Inspection Type	Inspector	Fac Type
1 N 2 5	3 NJ0020141 11	12 131030 17	18 &	19 R	20 1

Remarks

2 66

Inspection Work Days	Facility Self-Monitoring Evaluation Rating	B1	QA	Reserved
6 1 69	70	71	72	73 74 7 80

Section B: Facility Data

Name and Location of Facility Inspected *(for industrial users discharging to POTW, also include POTW name and NPDES permit number*

Middlesex County Utilities Authority, 2571 Main Street, Sayreville, New Jersey 08872

Entry Time/Date	Permit Effective Date
9:30 AM 10/30/13	
Exit Time/Date	**Permit Expiration Date**
10/31/2013	

Name(s) of On-Site Representative(s)/Title(s)/Phone and Fax Number(s)

Kevin T. Aiello, Administrator Environmental Quality
Middlesex County Utilities Authority, 2571 Main Street, Sayreville, New Jersey 08872, Tel. (732) 721-3800 Ext. 230, Fax.(732) 727-2254
kaiello@mcua.com

Other Facility Data

Name, Address of Responsible Official/Title/Phone and Fax Number(s)

Richard T. Fitamant, Executive Director
Middlesex County Utilities Authority, 2571 Main Street, P.O. Box 159, Sayreville, New Jersey *08872-0159 Tel. (732) 721-3800 Fax.(732) 727-2254*

Contacted: [ ] Yes [x] No

Section C: Areas Evaluated During Inspection *(Check only those areas evaluated)*

[ ]	Permit	[ ]	Flow Measurement	[x]	Operations & Maintenance	[x]	CSO/SSO (Sewer Overflow)
[x]	Records/Reports	[ ]	Self-Monitoring Program	[ ]	Sludge Handling/Disposal	[ ]	Pollution Prevention
[ ]	Facility Site Review	[ ]	Compliance Schedules	[ ]	Pretreatment	[ ]	Multimedia
[ ]	Effluent/Receiving Water	[ ]	Laboratory	[ ]	Storm Water	[ ]	Other:

Section D: Summary of Findings/Comments *(Attach additional sheets of narrative and checklists as necessary)*

See attached compliance evaluation inspection report for inspection findings.

Name(s) and Signature(s) of Inspector(s)	Agency/Office/Phone and Fax Numbers	Date
Murray Lantner, P.E. Env. Eng.	EPA/DECA-WCB/(212) 637-3976 FAX: x3953	9/16/14
Signature of Management Q/A Reviewer	**Agency/Office/Phone and Fax Numbers**	**Date**
Larry Gaugler, P.E., NPDES Team Leader	EPA/DECA-WCB/(212) 637-3950 FAX: x3953	9/17/14

INSTRUCTIONS

Section A: National Data System Coding *(i.e., PCS)*

Column 1: Transaction Code: Use N, C, or D for New, Change, or Delete. All inspections will be *new* unless there is an error in the data entered.

Columns 3-11: NPDES Permit No. Enter the facility's NPDES permit number - third character in permit number indicates permit type for U=unpermitted, G=general permit, etc.. *(Use the Remarks columns to record the State permit number, if necessary.)*

Columns 12-17: Inspection Date. Insert the date entry was made into the facility. Use the year/month/day format (e.g., 04/10/01 = October 01, 2004).

Column 18: Inspection Type*. Use one of the codes listed below to describe the type of inspection:

A	Performance Audit	U	IU Inspection with Pretreatment Audit	!	Pretreatment Compliance (Oversight)
B	Compliance Biomonitoring	X	Toxics Inspection		
C	Compliance Evaluation (non-sampling)	Z	Sludge - Biosolids	@	Follow-up (enforcement)
D	Diagnostic	#	Combined Sewer Overflow-Sampling		
F	Pretreatment (Follow-up)	$	Combined Sewer Overflow-Non-Sampling	{	Storm Water-Construction-Sampling
G	Pretreatment (Audit)	+	Sanitary Sewer Overflow-Sampling		
I	Industrial User (IU) Inspection	&	Sanitary Sewer Overflow-Non-Sampling	}	Storm Water-Construction-Non-Sampling
J	Complaints	\	CAFO-Sampling		
M	Multimedia	=	CAFO-Non-Sampling	:	Storm Water-Non-Construction-Sampling
N	Spill	2	IU Sampling Inspection		
O	Compliance Evaluation (Oversight)	3	IU Non-Sampling Inspection	~	Storm Water-Non-Construction-Non-Sampling
P	Pretreatment Compliance Inspection	4	IU Toxics Inspection		
R	Reconnaissance	5	IU Sampling Inspection with Pretreatment	<	Storm Water-MS4-Sampling
S	Compliance Sampling	6	IU Non-Sampling Inspection with Pretreatment	-	Storm Water-MS4-Non-Sampling
		7	IU Toxics with Pretreatment	>	Storm Water-MS4-Audit

Column 19: Inspector Code. Use one of the codes listed below to describe the *lead agency* in the inspection.

A — State (Contractor)
B ---- EPA (Contractor)
E — Corps of Engineers
J — Joint EPA/State Inspectors—EPA Lead
L ---- Local Health Department (State)
N — NEIC Inspectors
O— Other Inspectors, Federal/EPA (Specify in Remarks columns)
P— Other Inspectors, State (Specify in Remarks columns)
R — EPA Regional Inspector
S — State Inspector
T — Joint State/EPA Inspectors—State lead

Column 20: Facility Type. Use one of the codes below to describe the facility.

1 — Municipal. Publicly Owned Treatment Works (POTWs) with 1987 Standard Industrial Code (SIC) 4952.
2 — Industrial. Other than municipal, agricultural, and Federal facilities.
3 — Agricultural. Facilities classified with 1987 SIC 0111 to 0971.
4 — Federal. Facilities identified as Federal by the EPA Regional Office.
5 — Oil & Gas. Facilities classified with 1987 SIC 1311 to 1389.

Columns 21-66: Remarks. These columns are reserved for remarks at the discretion of the Region.

Columns 67-69: Inspection Work Days. Estimate the total work effort (to the nearest 0.1 work day), up to 99.9 days, that were used to complete the inspection and submit a QA reviewed report of findings. This estimate includes the accumulative effort of all participating inspectors; any effort for laboratory analyses, testing, and remote sensing; and the billed payroll time for travel and pre and post inspection preparation. This estimate does not require detailed documentation.

Column 70: Facility Evaluation Rating. Use information gathered during the inspection (regardless of inspection type) to evaluate the quality of the facility self-monitoring program. Grade the program using a scale of 1 to 5 with a score of 5 being used for very reliable self-monitoring programs, 3 being satisfactory, and 1 being used for very unreliable programs.

Column 71: Biomonitoring Information. Enter D for static testing. Enter F for flow through testing. Enter N for no biomonitoring.

Column 72: Quality Assurance Data Inspection. Enter Q if the inspection was conducted as followup on quality assurance sample results. Enter N otherwise.

Columns 73-80: These columns are reserved for regionally defined information.

Section B: Facility Data

This section is self-explanatory except for "Other Facility Data," which may include new information not in the permit or PCS (e.g., new outfalls, names of receiving waters, new ownership, other updates to the record, SIC/NAICS Codes, Latitude/Longitude).

Section C: Areas Evaluated During Inspection

Check only those areas evaluated by marking the appropriate box. Use Section D and additional sheets as necessary. Support the findings, as necessary, in a brief narrative report. Use the headings given on the report form (e.g., Permit, Records/Reports) when discussing the areas evaluated during the inspection.

Section D: Summary of Findings/Comments

Briefly summarize the inspection findings. This summary should abstract the pertinent inspection findings, not replace the narrative report. Reference a list of attachments, such as completed checklists taken from the NPDES Compliance Inspection Manuals and pretreatment guidance documents, including effluent data when sampling has been done. Use extra sheets as necessary.

*Footnote: In addition to the inspection types listed above under column 18, a state may continue to use the following wet weather and CAFO inspection types until the state is brought into ICIS-NPDES: K: CAFO, V: SSO, Y: CSO, W: Storm Water 9: MS4. States may also use the new wet weather, CAFO and MS4 inspections types shown in column 18 of this form. The EPA regions are required to use the new wet weather, CAFO, and MS4 inspection types for inspections with an inspection date (DTIN) on or after July 1, 2005.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2, DECA-WCB
20th Floor, 290 Broadway, NY, NY 10007

SANITARY SEWER SYSTEM
COMPLIANCE EVALUATION INSPECTION REPORT

Compliance Evaluation Inspection: Middlesex County Utilities Authority Sanitary Sewer Overflow and Combined Sewer Overflow
Inspection Date: October, 30, 3013 – October 31, 2013 **Inspection Time:** 9:30 AM 10/30 to 3:30 PM 10/31/13
EPA Inspector: Murray Lantner, P.E., Environmental Engineer, USEPA Region 2, (212) 637-3976 9/16/14
NJDEP Inspector: Maureen Byrne, NJDEP (609) 436-6389, Maureen.Byrne@dep.nj.gov
On-Site Representatives: Kevin T. Aiello, Administrator Environmental Quality, Tel. (732) 721-3800 Ext. 230, kaiello@mcua.com Mike Arway, Lines and Meters Superintendent, Tel. (732)-721-3800,732 727 2254 marway@mcua.com Victor Santamarina, Plant Superintendent, (732) 721-9824, vsantama@mcua.com
Site Information: Middlesex County Utilities Authority, 2571 Main Street, Sayreville, New Jersey 08872 NJPDES No. NJ0020141

I. Summary of Potential Noncompliance and Areas of Concern

A. Potential Noncompliance

1. Part IV.E.4.d of MCUA's NJPDES Permit requires that MCUA explore and implement to the extent practicable the minimization of non-domestic user discharges during wet weather periods. As described in paragraph II.29 below MCUA industrial user permits do not require flow minimization during wet weather.

2. As described in paragraph II.31 Tables 4 and 5 for the period January 2012 to March 2014 based on MCUA spreadsheets and/or affirmative defense requests that contain effluent data on flow rate, Total Suspended Solids (TSS), Biochemical Oxygen Demand and precipitation, MCUA had exceedances for TSS during this period. The exceedances appear to coincide with above average or large precipitation/snow melt events events such as in June 2013, January, February and March, 2014, and to a lesser extent during specific weeks in December 2012, April 2013, and May 2013. As described in paragraph II.30 Table 2 there are several MCUA metering chambers, in separately sewered areas that have flow had increases of 2.5 times during wet weather. As shown in paragraph II.30, the calculations in Table 3 show metering chambers with a 50% or more difference

between average dry weather flows and the 90th percentile wet weather flows. Also see paragraphs II.6, 7, 8 below. MCUA must provide a written description of MCUA mechanisms to mandate I&I reductions by its participants and/or treat the additional flow. As described in Attachment 15, MCUA submitted Affirmative Defense Requests to NJDEP for the April 2013, May 2013 and June 2013 TSS effluent violations. NJDEP granted the Affirmative Defense Requests in a letter Dated November 20, 2013 (Attachment 15). MCUA also applied for affirmative defenses from NJDEP for the January, February and March 2014 violations, which to date have not been granted.

3. As described in paragraph II.13.a. following Hurricane Sandy temporary overflow points were constructed at the MCUA landfill to avoid inundation of the Sayreville Pump Station and overflows from upstream sewers during wet weather events prior to the restoration of sufficient pump capacity at the Sayreville PS. The Sayreville PS serves separately sewered areas but wet weather especially extreme events can increase flows to the pump station by 3 or 4 times.

B. Areas of Concern

1. As described in paragraph II.14 MCUA has no Standard Operating Procedures for handling sanitary sewer overflows from MCUA owned lines.

2. As described in paragraph II.20 MCUA said it was developing a plan to inspect and repair siphons. MCUA should explain the status of the siphon inspection, cleaning, repair.

3. As described in paragraph II.21 below explain the current status of CCTV work on the Upper Main and Lower Main and South River Relief interceptor which is expected over the next 2 to 3 years.

4. As described in paragraph II.25 and II.26 MCUA is not conducting inspections of its sewers each year as specified in its Operation and Maintenance Manual for the Trunk Sewer System August 1981 page 3-12. Also indicate if the pressure drop tests in the force main specified on page 3-15 of the Trunk Sewer System O&M Manual are being conducted (See Attachment 9).

5. As described in paragraph II.32.a during the inspection two of MCUA's primary clarifiers were out of service during the inspection. What is the operational status of MCUA's 6 primary tanks?

6. MCUA indicated that on Oak Tree Road Near Route 27 in Edison, NJ had a history of overflows. Please provide bypass report records for these overflows.

7. As described in paragraph II.33.a during the inspections, specific pumps at the Old Sayreville PS and Sayreville Relief PS were still out of service due to flooding of the PS during Hurricane Sandy. What is the current operational status of the pumps at the Sayreville Pump Stations? Post inspection communications with NJDEP indicated that

the Old Sayreville Pump Station was not operational prior to Sandy and hadn't been used in decades. MCUA was in the process of refurbishing the Old Sayreville pump station in order to work on repairing a force main from the new pump station.

8. As described in paragraph II.33.b, EPA inspected the first manhole upstream of the Bound Brook Pump Station and there was a pipe seen entering relatively high in the manhole. The pipe was said to be an old storm water pipe that was valved off and no longer used. MCUA must verify that this pipe is valved off and it does not convey wastewater from the sanitary manhole to an overflow point or discharge point to receiving waters.

9. As described in paragraphs II.9 and II.33.c the Greenbrook Pump Station does not have backup power and MCUA was also investigating flood mitigation/flood protection for this pump station. Additionally a variable frequency drive for one of the pumps was not operating. Please provide the status of these efforts to protect the Greenbrook Pump Station.

10. As described in paragraph II.33.d the automatic controls to switch the Edison PS over to backup power were no longer functional as a result of flooding during Sandy. The station would have to be manually be switched over to backup power. Explain the currents status of automatic switchover to backup power at the Edison PS.

II. Background and Findings

Collection System:

1. The purpose of this sanitary sewer system Compliance Evaluation Inspection (CEI) was to assess the adequacy of the system's minimization of Sanitary Sewer Overflow (SSO) discharges and also evaluate permit measures required for Combined Sewer Systems and Combined Sewer Overflows (CSOs). This CEI was conducted as part of the United States Environmental Protection Agency (EPA) nation-wide initiative to make such assessments of sanitary sewer systems of medium-sized Wastewater Treatment Plants (WWTPs), defined as WWTPs with design capacities between 10 and 100 MGD and of large-sized WWTPs, defined as WWTPs with design capacities in excess of 100 MGD.

2. MCUA operates a collection system that receives flow from satellite communities (called Participants by MCUA) with separate sanitary sewer systems and combined sewer systems and also operates the MCUA wastewater treatment plant (WWTP) NJPDES No. NJ0020141, a large-sized WWTP. Daily flows to the plant during dry periods average around 80MGD, the plant was said to be designed for 147 MGD. Flows to the plant increase during storm events and exceeded 400 MGD during Hurricane Irene. MCUA's service population was said to be approximately 800,000.

3. According to Mr. Aiello, MCUA does not operate any storm sewers except those at the MCUA WWTP. It is responsible mainly for the large trunk lines and pump stations that gather flow from the satellite communities. Based upon the 1981 O&M manual the MCUA

collection system was approximately 40 miles (31.6 miles of gravity lines and 8.6 miles of gravity sewer). Based upon information received during the inspection (See Attachment 2) there are currently 40 miles of gravity sewers and 12.4 miles of force mains, or approximately 52.4 miles of sewer that MCUA is responsible for. Based upon MCUA's web site www.mcua.com it owns a collection system is 140 miles. Spacing between manholes range from 300' for sewers built more recently in the 1970s and 1000' for the older trunk lines.

4. According to Mr. Aiello, the MCUA sanitary collection system consists of corrugated metal pipe and reinforced concrete pipe. MCUA plans on conducting sliplining of the corrugated metal pipes over the next 10 years. MCUA explained that the main trunk sewer was built in the 1950s (South River Interceptor). In the 1960s the Hayden line that collects part of Edison, PMC, HACCO, and other IUs was constructed. The Upper Main, Lower Main trunk, South River relief sewer, Sayreville Relief Pump Station was built in the 1970s/early 1980s. In 1980s, Woodbridge built collection system to the Hayden Gravity Line to Edison PS and that took Perth Amboy, Carteret and part of Woodbridge. In 1980s the South Bay force main/interceptor, Old Bridge, South Amboy and parts of Sayreville South Amboy PS were constructed. A map of MCUA's collection system is contained in Attachment 3.

5. MCUA said that it receives flow from 27 participants (satellite communities and industries) (See Attachment 4 for a list of Satellite Communities). One of these satellites (PARSA) consists of 7 additional satellites. The 23 Municipal satellites, are listed in Attachment 4, and comprise approximately 2,917 miles of sewer.

6. MCUA entered into Participant Agreements in and around 1954 with its satellite communities. It entered into Supplemental Participant agreements with its satellite communities in or around 1975. The Supplemental Participant Agreement contains language related to excessive Inflow and Infiltration. Copies of Participant Agreements for Edison, Highland Park, and New Brunswick were provided to EPA during the inspection. (A sample of the Supplemental Participant Agreement is included in Attachment 5)

7. Based on EPA's 2007 MCUA inspection report, According to MCUA, the MCUA works with its customers to develop infiltration and inflow (I&I) reduction programs. The MCUA estimates typical dry weather flow from each municipality by calculating the flow for days with less than one quarter inch of rainfall. MCUA then evaluates peak flows during wet events; MCUA indicated they have seen wet weather flows from the municipalities ranging from one and a half to twelve times the average dry weather flows. Attachment 6 contains the 2011 and 2012 comparisons between wet weather and dry weather flows from participants done by MCUA.

   MCUA said that it requires its participants to submit an I&I program plan, and does not approve sewer expansions/connections for customers who have not submitted such a plan. The MCUA provides wet weather and dry weather flow information to its customers with its quarterly reports.

Pump Stations / Lift Stations:

8. MCUA's Sayreville and Edison pump stations were seriously impacted by flooding during Hurricane Sandy. This led to the discharge of over 1 billion gallons of raw sewage over the period of approximately 2 months. See Attachment 8 with MCUA Bypass Reports. The Sayreville Pump station has a bypass point where untreated wastewater can be discharged to the receiving water (Washington Canal). (See Photo DSCN1566.) The temporary overflow points constructed at the landfill to prevent flooding of the Sayreville Pump Station following Hurricane Sandy were subsequently eliminated. The Sayreville Pump Station serves separately sewered areas but flow through the pump station shows significant increases in flow during some wet weather events.

9. The Greenbrook pump station has no backup power. If there is a major storm MCUA said that they will rent a generator. MCUA said that the station will be shut down during major storms such as during Floyd 1999 and Irene 2011. If there is a lot of flow in the Greenbrook then the station can be flooded. There have been short term power outages. MCUA is investigating construction of flood mitigation practices to protect the pump station. There is also a parallel gravity line that conveys flow without the use of the Greenbrook Pump Station that accommodates a portion of the flow.

10. MCUA personnel noted that the City of Perth Amboy is limited in pump station capacity which limits the wet weather peak flow into MCUA's Edison Pump Station.

Flow Metering and Billing:

11. MCUA owns and operates 72 metering chambers where it measures flow and collects samples for BOD, Suspended Solids and Chlorine Demand.

12. MCUA bills its satellite communities for both Operation and Maintenance and Debt Service which are calculated using different formulas that are both based on flow and tons of BOD, Suspended Solids, and Chlorine Demand based on data from its 72 metering stations. Attachment 7 contains 2012 data/formulas to calculate billing rates.

Table 1: MCUA Pump Stations Capacity, Backup Power, Alarms

Pump Station Pump Station Name	**Approximate Station Capacity (MGD)**	**Backup Power and Pump Station Status at time of inspection.**	**Wet Well High Level Alarm and Power Failure (Dialer)**
Sayreville (Receives flow from New Brunswick, Metuchen, Johnson Park in Edison TWP) in total 32 municipalities in Middlesex, Union and Somerset counties.	300	Dual feed and a backup diesel generator that can run 2 pumps. Old Sayreville Pump Station - 2 of 4 pumps were in service. 2 out of service (expected to be back in service in a few months) Relief Sayreville PS – 5 of 6 Pumps Operable. Pump 5R – Suction	Yes
Edison receives wastewater flow from the City of Perth Amboy, the Borough of Carteret, and parts of Edison Township and Woodbridge Township,	85	Natural Gas Backup Generators	Yes
South Amboy receives flow from the City of South Amboy, part of Old Bridge Township and part of the Borough of Sayreville	15	Portable generator, because rod on permanent generator blew rod.	Yes
Bound Brook	5	Diesel emergency generator in place	Yes

SSO Discharges / Spills:

13. Mr. Aiello indicated that MCUA rarely experiences SSO events in its system. SSOs in the collection systems of the satellite communities are more likely.

    a. According to Mr. Aiello there were a series of sanitary sewer overflows associated with the pump station outages during and after Hurricane Sandy (October 29, 2012):

        i. The Sayreville Pump Station and associated constructed overflow points had discharges during the period October 29, 2012 until January 27, 2013.
        ii. Overflows at the manholes prior to the Edison Pump Station
        iii. Manhole overflow for about 1 or 2 days at the South Amboy Pump Station.
        iv. There were overflows to basements on Weber Avenue in Sayreville during and following Sandy.

    From October 29 to December 29, 2012, due to Hurricane Sandy, in total 1.113 billion gallons were discharged to the Raritan River of which 926MG was discharged during the period October 29 to November 20, 2012. See Bypass Reports in Attachment 8 for more information. Additionally, daily Sandy reports are available at http://www.mcua.com/news-publications/

    b. MCUA also indicated that more than 5 years prior there was an overflow from manholes upstream of the Edison Pump Station due to a power failure.

    c. In 2003, it was explained that a portion of the 102" reinforced concrete pipe broke and there was a discharge to the River for approximately 9 days around Cliff Ave. Facility and NJDEP representatives stated that an NJDEP Administrative Compliance Order was issued to address this issue. MCUA and NJDEP were in discussions on potential close out of this Order. Post inspection communications with NJDEP indicated that this Order was closed out on 11/12/13.

14. MCUA should indicate and provide if it has it, a Standard Operating Procedure (SOP) for addressing SSOs if they occur on the MCUA lines. MCUA does have a wet weather SOP for operating the WWTP.

Residential Complaints / Collection System Insurance:

15. According to Mr. Aiello, MCUA gets complaints about backups, however, rarely is the cause of the backup related to MCUA, but is typically a problem in the collection systems of the satellite communities. MCUA did get calls during/after Hurricane Sandy. The collection system is self insured up to $5M, but not for flooding. MCUA has not paid out any claims and no claims have been filed against it and does not have a reimbursement/compensation program.

Capacity Issues / Collection System Maintenance:

16. Over the past 5 years MCUA stated that there were problems just during Hurricane Sandy and Irene. The MCUA WWTP design capacity is 147 MGD. During Hurricane Irene pumped 425 MGD through the WWTP. MCUA has the ability to bypass secondary treatment if needed, but said that they don't use the secondary bypass. MCUA, said that during Hurricane Irene they were able to manage the high flows at the WWTP. As described in paragraph 33 based on EPA's Enforcement and Compliance History Online (ECHO) database, MCUA has had effluent violations as shown in Table 5 for Fecal and Total Coliform, and Total Suspended Solids during the quarters January 2011 to September 2012. As described in paragraph 33 Table 4, based on MCUA data, MCUA has also exceeded TSS limitations in 2012, 2013 and 2014.

17. New Jersey requires that a Licensed Collection System Operator to properly maintain collection system. The satellite communities therefore are required to have a licensed collection system operator that develop monthly reports on the status of the collection system.

18. MCUA said that it can't require the participants to remove Inflow and Infiltration (I&I) from their respective systems. But MCUA's bill is based partially on the volume of flow from the participant. MCUA does have a program that was initiated in 1994, as part of its supplemental participant agreement, where MCUA notified separately sewered participants that had flow rates where the maximum wet weather flow was 2.5 times the dry weather flows (or the maximum flow difference between wet weather and dry weather flows was 150% greater than the dry weather flow). These participants are required to submit their monthly collection system report and/or quarterly inflow and infiltration ("I&I") report. MCUA has the authority to mandate this since it must concur on a Treatment Works Approval permit to NJDEP. If a new development will send 8,000 gpd or more of wastewater to the sanitary system it needs a NJDEP Treatment Works Approval permit. Therefore MCUA said it will not give a Treatment Works Approval concurrence if the participant is behind on submitting its I&I Reports to MCUA. The Treatment Works Approval is designed to ensure that there is adequate capacity in the sewer lines downstream of the new connection. Each of the participants is also supposed to provide a monthly collection system report to MCUA as well.

19. MCUA stated that it replaced the plant's influent flow meter 2 to 3 years ago with a magnetic flow meter. Averaged over 2012 MCUA compared the flow between participant meters and plant influent and said that there was good agreement between these meters and therefore deduced that there is not high inflow and infiltration into the MCUA owned portion of the wastewater collection system.

20. MCUA said that they clean about 1% of their system per year and that cleaning is not generally needed. They do have some siphons, the South Boundbrook siphon and the Washington Canal Siphon that do need to be cleaned. Especially due to the reconfiguration

of the flow to the Sayreville Pump Station. MCUA said it was developing a plan to inspect and repair siphons. MCUA should explain the status of the siphon inspection, cleaning, repair.

21. CCTV - MCUA said that they did CCTV work on approximately 50% of the sewer since the 1990s and that they plan to conduct the next 50% over the next 5 years. They said that the CCTV program is not in place now, but plan to do conduct CCTV work on the Upper Main and Lower Main - about 50% of system- and South River Relief interceptor over the next 2 to 3 years.

22. MCUA is planning on sliplining the corrugated portion of main sewer by 2020 at a cost of $55M. MCUA should explain the status of the CCTV and sliplining work. MCUA is planning on rehabilitating its main trunk sewers from Bound Brook to Sayreville. MCUA has 18,000 linear feet of corrugated metal pipe. These pipes are losing their bitumatic coating. MCUA received contract bids 2 weeks prior to the inspection for 6,000 to 7,000 lf of line in Johnson Park.

23. MCUA said that it does not have a Fats, Oils and Grease (FOG) Program. They said that they never have had an issue with FOG blockages in their system.

24. MCUA said that they maintain the documents required by Part IV.E.4.g of the Permit Combined Sewer System Pollution Prevention Plan ("CSSPPP") but not all of the required documents are in one location. MCUA said that it submitted these documents to EPA in February 20, 2007 when EPA conducted a prior CSO inspection. MCUA was able to provide all documented requested by EPA during as well as following the inspection.

25. MCUA's Operation and Maintenance Manual for the Trunk Sewer System August 1981 Section 3, Page 3-12 states "All regional trunk sewers, together with manholes, should be visually inspected once each year. This practice should be scheduled as part of the annual maintenance program throughout the life of the system." Chart 3-1 in the O&M Manual contains form for inspecting and lamping the condition of the sewer and assessing if there are debris, blockages, and other problems (See Attachment 9). Mike Arway the Lines and Meters Superintendent indicated that lamping and manhole inspections are done when there is available time/personnel, but all sewers/manholes may not be done each year. MCUA is expending resources on clearing rights of way, maintaining fencing, inspecting/repairing manhole frames, covers etc. MCUA must institute its sewer inspection program in accordance with its O&M manual and maintain records of miles of sewer that have been inspected and cleaned each year. MCUA has also been doing cleanups of siphon chambers.

26. Page 3-15 of the 1981 Trunk Sewer O&M Manual states, "annually conduct pressure drop tests thru various sections of the force main by installing pressure gauges at air release assemblies (if provided) and recording pressure at each location. MCUA needs to indicate whether it is doing annual pressure drop tests on the force main.

27. MCUA said that Sewer System Evaluation Surveys were conducted in the participant communities in the 1980s as part of the grant conditions.

28. MCUA has an acoustic system on the 102" reinforced concrete pipe and which is connected to the internet so that they can monitor the number of wire breaks in the pipe and determine when maintenance on the pipe is needed.

29. Part IV.E.4.d of MCUA's NJPDES Permit requires that MCUA explore and implement to the extent practicable the minimization of non-domestic user discharges during wet weather periods. MCUA issues the permits to Industrial Users (IUs) in Perth Amboy a combined sewer area. During Sandy, larger industries developed and implemented water conservation plans. MCUA said that its Industrial User Permits do not have flow limitations or control wet weather flow rates. MCUA said that it could review IU Permits in Perth Amboy to assess instituting wet weather flow limits. MCUA committed to send a letter to Peth Amboy IUs (Listed in Attachment 13) to get feedback from each IU how wet weather flows from the IUs could be minimized. MCUA said that one IU, Chemtura had the ability to store its flow.

30. Part IV.E.1.e.i of the Permit requires a Capacity Assurance Program in accordance with NJAC 7:14A-22.16 (Attachment 11). MCUA sent a letter to NJDEP dated January 28, 2009 (Attachment 12) related to compliance with the Capacity Assurance Program (CAP). MCUA's WWTP is rated for an average of 147MGD, and at times the average flow to the plant exceeded 80% of this design flow (117.6 MGD). As shown in Figure 1, below, during the period January 2012 to October 2013 the monthly average flow exceeded 117.6 MGD for one month in June 2013 as well as on specific days related to wet weather events. NJDEP issued a May 31, 19996 Administrative Order (Contained in Attachment 12) that required MCUA to determine which municipalities and industrial participants have wet weather flow in excess of 2.5x the dry weather flow, and develop incentives for the municipalities and industrial participants to reduce I&I. Based on MCUA's 2011 and 2012 analysis (See Attachment 6), as shown in Table 2 below the following metering chambers recorded maximum wet weather flows of more 2.5x the dry weather flow in both 2011 and 2012.

Figure 1:

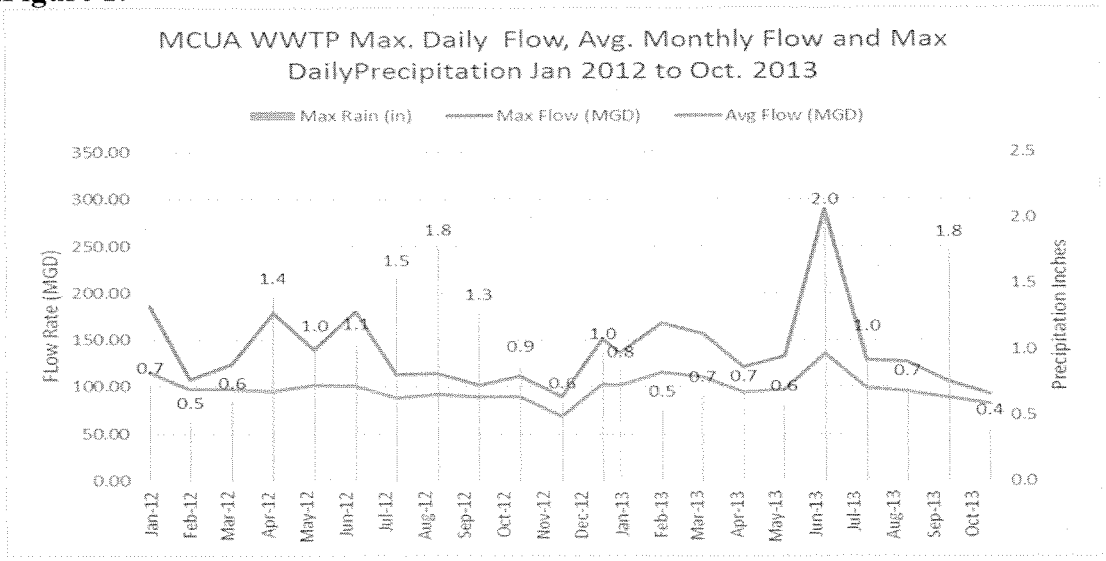


Table 2: Metering stations where the 2011 and 2012 maximum wet weather/dry weather flow difference exceeded or equal to 150%. Based on MCUA's 2011 and 2012 Submittal (See Attachment 13)

Participant	Connection	2012 Max Difference between wet and dry weather flows (MG)	2012 Max Percent Difference for wet weather flows 150% or Greater than dry weather flows (%)	2011 Max Difference between wet and dry weather flows (MG)	2011 Max Percent Difference for wet weather flows 150% or Greater than dry weather flows (%)
Bound Brook	Bound Brook	2.441	242	3.937	336
Cartaret	Total	6.169	252	13.072	557
E. Brunswick	River Road	1.18	493	1.18	479
Edison	Cedar Lane	1.981	191	5.561	625
Edison	Pershing Ave.	1.504	303	1.851	413
Franklin Twp.	North	4.018	187	4.18	182
Franklin Twp.	South	3.688	312	4.156	282
Highland Park	Cleveland Ave.	0.819	406	2.059	1201
Highland Park	Donaldson Pk.	1.61	196	4.738	687
Highland Park	River Road	0.216	585	0.195	262
Middlesex	Middlesex	3.235	234	5.461	402
New Brunswick	Landing Lane	17.692	329	27.944	707
North Brunswick	Georges Road	0.071	250	0.152	357
North Brunswick	Livingston Ave.	0.132	480	0.512	1969
North Brunswick	Remsen Ave.	1.997	184	4.456	431
Old Bridge	Lawrence Harbor	0.179	160	0.633	591
Perth Amboy	Total	6.499	150	7.106	165
Piscataway	Piscataway	9.766	220	18.356	425
Piscataway	Metlars Lane	0.426	232	1.015	1316
Piscataway	Riverdale	0.486	297	0.674	494
Piscataway	Riverside	0.816	400	1.404	756
Piscataway	Ross Hall	0.209	409	0.517	557
Piscataway	Tara	0.776	823	1.963	1832
Sayreville	Say Joint Sayreville	0.391	164	1.675	468
Sayreville	Roberts Street	0.094	483	0.157	1041

Participant	Connection	2012 Max Difference between wet and dry weather flows (MG)	2012 Max Percent Difference for wet weather flows 150% or Greater than dry weather flows (%)	2011 Max Difference between wet and dry weather flows (MG)	2011 Max Percent Difference for wet weather flows 150% or Greater than dry weather flows (%)
So. Bound Brook	So. Bound Book	0.709	172	2.09	484
South River	South River	0.88	160	6.401	1178
Woodbridge	Actual	14.373	395	28.651	622
Hatco	Total	0.39	244	0.659	410
PMC, Inc.	Total	2.463	32833	0.207	7250
Akzo, Inc.	Total	0.134	188	0.236	190
Union Carbide	Total	1.016	1216	3.391	2271
Edgeboro	Total	1.779	2204	2.039	1441

With the exception of the Edison Pump Station which includes wastewater form Perth Amboy, a combined sewer system, the rest of the MCUA system (including participants) is considered a separate system. Table 3 below compares average dry weather flows (days in which there was no rainfall (0.00" of precipitation) with average large wet weather flows (large wet weather days were those dates with 0.84" of precipitation the 90th percentile of wet weather days) based upon data provided to EPA by MCUA for the period Jan. 2011 to Aug. 2013. Those metering chambers that had flows during large wet weather events that were on average 50% greater than average dry weather flows were included in Table 3. As shown in Table 3 for example at New Brunswick Landing Lane and Edison Johnson Park there is a difference of millions of gallons between the large wet weather and dry weather flows that should be addressed under MCUA's I&I and Capacity Assurance Program.

Section 5(I) of the Participant Supplemental Agreement (Attachment 5) states, "Infiltration/Inflow – Each Municipality and all public corporations discharging sewage into the Local Sewage System of a Municipality will maintain its Local Sewerage System in such a manner as to exclude any excessive infiltration and/or inflow from entering into the Local Sewerage System.

Table 3: Metering Chambers - Comparison of average flows during Large Wet Weather Events (90th Percentile of days with Rainfall Event is 0.84") and Average Flow During Dry Weather Days (0.00" Rainfall) for the Period January 2011 to Aug. 2013. This table contains those metering chambers where large wet weather events caused increases in flow of 1.5x dry weather flow.

Participant	Connection	Average Flow Dry Weather Days (0.00" Rainfall) (MGD)	Average Flow Large Wet Weather Days (Wet Weather is 90th Percentile Rainfall 0.84") (MGD)	Ratio of Avg. Large Wet Weather Flows/Avg. Dry Weather
Tenneco Inc.	Total	0.003	0.090	33.52
Greentree	Hercules"D"	0.101	1.160	11.44
PMC Inc.	Total	0.016	0.086	5.33
North Bruns.	Livingston Ave	0.039	0.179	4.63
Piscataway	Tara	0.198	0.707	3.58
Highland Park	Cleveland Ave.	0.286	0.979	3.42
Edgeboro	Total	0.202	0.633	3.14
Edison	Cedar Lane	1.164	2.982	2.56
Piscataway	Ross Hall	0.093	0.236	2.53
South River	South River	0.751	1.773	2.36
Sayreville	Sayreville	0.429	0.989	2.30
Highland Park	Donaldson Pk.	1.016	2.314	2.28
Piscataway	Riverside	0.279	0.630	2.26
New Brunswick	Landing Lane	10.306	22.391	2.17
Piscataway	Metlars Ln.	0.200	0.433	2.16
Landing Lane Siphons		11.908	24.998	2.10
North Bruns.	Twelfth St.	3.270	6.658	2.04
North Bruns.	Remsen Ave.	1.386	2.784	2.01
Hercules	Hercules	0.376	0.715	1.90
Piscataway	Riverdale	0.214	0.397	1.86
So. Bo. Brook	So. Bo. Brook	0.506	0.920	1.82
Edison	Johnson Park	9.110	16.572	1.82
Franklin Twp.	South	1.596	2.898	1.82
Sayreville	River Road	0.243	0.435	1.79
AKZO Inc.	Total	0.111	0.198	1.79
New Brunswick	Parkway	5.180	8.909	1.72
E.Brunswick	Sch House Ln	2.008	3.446	1.72
Middlesex	Middlesex	1.641	2.815	1.71
Bound Brook	Bound Brook	1.210	2.073	1.71
Piscataway	Piscataway	5.638	9.604	1.70
Piscataway	Hoes Lane	0.781	1.311	1.68
Highland Park	River Road	0.073	0.120	1.65
South River	South River So.	0.743	1.220	1.64
Franklin Twp.	RiverView	1.561	2.554	1.64
Greenbrook Pump Station	60"(37) & 48"Force Main	21.607	33.509	1.55
Middlesex Interchange	60"(37)&66(47.55)	21.102	32.589	1.54
Sayreville	Say Joint Sayreville	0.276	0.421	1.53

Table 3: Metering Chambers - Comparison of average flows during Large Wet Weather Events (90th Percentile of days with Rainfall Event is 0.84") and Average Flow During Dry Weather Days (0.00" Rainfall) for the Period January 2011 to Aug. 2013. This table contains those metering chambers where large wet weather events caused increases in flow of 1.5x dry weather flow.

Participant	Connection	Average Flow Dry Weather Days (0.00" Rainfall) (MGD)	Average Flow Large Wet Weather Days (Wet Weather is 90th Percentile Rainfall 0.84") (MGD)	Ratio of Avg. Large Wet Weather Flows/Avg. Dry Weather
Sayreville Force Main	102" Total	1.058	1.602	1.51
North Bruns.	Georges Road	0.057	0.086	1.51
Piscataway	Am. Standard	0.116	0.173	1.50

As described in MCUA's March 1, 2013 letter where it requested an affirmative defense for dozens of controlled overflows (see Attachment 8) after Sandy when wet weather flows coupled with the loss of pump capacity at the Sayreville Pump Station and other locations due to Sandy caused MCUA to utilize controlled overflow points. However, MCUA's participants with the exception of Perth Amboy and potentially some if its Industrial Users are supposed to be separately sewered and therefore large fluctuations between dry weather and wet weather flows should warrant I&I reduction and/or plant expansion. NJDEP responded to MCUA's request for an affirmative defense in a letter dated April 16, 2013. Based upon communications with NJDEP following the inspection, affirmative defenses can only be used for effluent violations and not unpermitted discharges. NJDEP also has exercised enforcement discretion in addressing the Sandy related unauthorized discharges.

NJPDES Permit Exceedances

31. As shown in the table below for the period January 2013 to October 2013, based on MCUA spreadsheets that contain effluent data on flow rate, Total Suspended Solids (TSS), Biochemical Oxygen Demand and precipitation, MCUA had exceedances for TSS and BOD during this period that appear to coincide with above average or large precipitation events such as in June 2013, and to a lesser extent during specific weeks in December 2012, April 2013, and May 2013.

Table 4 – Table of Exceedances based on review of MCUA TSS and BOD effluent spreadsheet data for the period January 2012 to October 2013 and MCUA's Request for Affirmative Defense dated April 24, 2014, March 27, 2014 and February 20, 2014 for March to January 2014 respectively.

Date	Week No.	Parameter	Units	Days of Violation	Permit Limit	Reported Level	Monthly Total Rainfall (in)	Daily Max Rainfall in Month (in)	Total Precip During Week of Violation (in)	Monthly Average Flow (MGD)	Max Flow MGD
Dec-12	N/A	TSS	mg/l	30	30	38	3.77	0.98	N/A	103	150
Dec-12	Week 3	TSS	mg/l	7	45	59	3.77	0.98	1.23	103	150
Dec-12	Week 3	TSS	kg/day	7	25,038	25,333	3.77	0.98	1.23	103	150
Apr-13	N/A	TSS	mg/l	30	30	43	1.47	0.66	N/A	94	121
Apr-13	Week 2	TSS	mg/l	7	45	64	1.47	0.66	1.17	94	121
May-13	N/A	TSS	mg/l	30	30	35	2.53	0.58	N/A	97	133
May-13	Week 2	TSS	mg/l	7	45	67	2.53	0.58	1.25	97	133
May-13	Week 2	TSS	kg/day	7	25,038	29,516	2.53	0.58	1.25	97	133
Jun-13	N/A	TSS	kg/day	30	16,692	23,931	6.63	2.00	N/A	135	289
Jun-13	N/A	TSS	mg/l	30	30	41	6.63	2.00	NA	135	289
Jun-13	Week 1	TSS	kg/day	7	25,038	34,345	6.63	2.00	3.02	135	289
Jun-13	Week 2	TSS	kg/day	7	25,038	39,550	6.63	2.00	2.59	135	289
Jun-13	Week 1	TSS	mg/l	7	45	62	6.63	2.00	3.02	135	289
Jun-13	Week 2	TSS	mg/l	7	45	47	6.63	2.00	2.59	135	289
Jan-14	Week 4.5	TSS	mg/l	30	30	33	MCUA said was due to increased flows related to precipitation/Snow Melt				
Jan-14	Week 4.5	TSS	mg/l	7	45	50					

Feb-14	Week 2	TSS	kg/day	7	25,038	28812	MCUA said was due to increased flows related to precipitation/Snow Melt				216
Feb-14	Week 2	TSS	mg/l	7	45	55					216
Mar-14	Week 4.5	BOD	mg/l	7	45	107	MCUA said was due to increased flows related to precipitation/Snow Melt				294
Mar-14	Week 4.5	BOD	Kg/day	7	25,038	36,773					294
Mar-14	Week 4.5	TSS	mg/l	7	45	105	MCUA said was due to increased flows related to precipitation/Snow Melt				294
Mar-14	Week 4.5	TSS	kg/day	7	25,038	74,962					294
Mar-14	N/A	TSS	mg/l	30	30	37	MCUA said was due to increased flows related to precipitation/Snow Melt				294
Mar-14	N/A	TSS	kg/day	30	16,692	23,538					294
Mar-14	Week 3	Whole Effluent Toxicity	LC50	1	67 or more	65					
Mar-14	Week 3	Methylene Chloride	ug/l	1	101	185					
Mar-14	Week 3	Methylene Chloride	g/d	1	56,300	67,481					
Week No.	**Day**	**Week No.**	**Day**	**Week No.**	**Day**	**Week No.**	**Day**	**Week No.**	**Day**		
Week 1	1 to 7	Week 2	8 to 14	Week 3	15 to 21	Week 4	22 to 28	4.5	Last 7 days of month		

As described in Attachment 15, MCUA submitted Affirmative Defense Requests to NJDEP for the April 2013, May 2013 and June 2013 TSS effluent violations. NJDEP granted the Affirmative Defense Requests in a letter Dated November 20, 2013 (Attachment 15). MCUA has also requested affirmative defenses from NJDEP for January, February and March 2014 for BOD and TSS violations caused by high flow rates entering the wastewater treatment plant during wet weather, as well as a methylene chloride and whole effluent toxicity exceedances in March 2014.

Table 5: Effluent Violations from EPA's Environmental Complianc and History Online (ECHO)

CWA (Source ID: NJ0020141)				01/01-03/31 2011	04/01-06/30 2011	07/01-09/30 2011	10/01-12/31 2011	01/01-03/31 2012	04/01-06/30 2012	07/01 - 09/30 2012	10/01 - 12/31 2012	01/01 - 03/31 2013	04/0 - 06/3 2013
Facility-Level Status				SNC/Cat 1	SNC/Cat 1	SNC/Cat 1	In Viol	In Viol	In Viol	In Viol	SNC/Cat 1	SNC/Cat 1	SNC/C 1
SNC/RNC History				D(DMR NR)	D(DMR NR)	D(DMR NR)	N(Rptviol)	N(Rptviol)	N(Rptviol)	N (Rptviol)	D(DMR NR)	D(DMR NR)	D(DMI NR)
	Pollutant	Discharge Point	Frequency										
CWA	Coliform, fecal general	001	Mthly	--	--	--	--	--	--	73%	--	--	--
CWA	Coliform, fecal general	001	NMth	--	--	--	--	--	--	2913%	--	--	--
CWA	Solids, total suspended	001	Mthly	--	--	--	11%	--	--	--	--	--	--
CWA	Solids, total suspended	001	NMth	11%	--	--	77%	--	--	--	--	--	--
CWA	Chlorine produced oxidants	007	NMth	1727%	1823%	1823%	1823%	1823%	1535%	1823%	--	--	--

Note that the limits for Chlorine Produced Oxidants were stayed pending final permit renewal (See Attachment 14). NJDEP, by letter granted affirmative defenses for fecal coliform violations in July and August 2012 that were said to be related to low influent to the plant (See Attachment 15).

MCUA Wastewater Treatment Plant Status

32. The following was reported by MCUA during the EPA inspection:

a. Two of six primary clarifiers were out of service. One was down for maintenance and another clarifier was down for reconstruction for over 1 year. The wet weather SOP (Attachment 10) requires that the six primary clarifiers be maintained in service at all times unless approved by supervisors. The Wet Weather SOP specifies that the primary tanks will be taken down for emergency repairs and must be placed back in service as soon as possible. MCUA must provide an update on the status of its 6 primary tanks.

b. One of sixteen final settling tanks is down for rebuilding. MCUA said that they are trying to rebuild one settling tank per month.

c. One aeration tank is on standby. MCUA said that they can start this up right away.

Field Work

33. EPA inspected the following MCUA pump stations and inspected the nearest upstream manhole or overflow point (in the case of the Sayreville Pump Station).

a. **Sayreville PS** – The Sayreville Pump Station consists of the Old Sayreville PS and the Sayreville Relief PS. During the inspection at the Old Sayreville PS two of the four pumps (1E and 4E) were out of service. One of the six pumps at the Relief Station (Pump 5R) was out of service.

The Sayreville Pump Station was partially under water due to Sandy which led to large volumes of bypassing from the station and upstream points from October 29, 2012 until January 2013. Temporary bypass points were constructed so that the sewers tributary to the Sayreville Pump Station would not overflow manholes or into basements (See Photo 1562). The last day of bypassing from temporarily constructed bypass points was January 17, 2013 at the landfill bypass. MCUA also had bypass overflow January 26, 2013 pipe froze and approximately 1,000 gallons overflowed the manhole, but said that it may not have discharged. MCUA said that they generally don't have bypassing except for the Sandy issue.

During the aftermath of Hurricane Sandy there were overflows on Weber Ave. due to the loss of pumping capability at the Sayreville Pump Station. Weber Ave. overflows at a wet well level at the pump station at 100" below the 11.3' mark. Operators said that Bypasses were being operated manually and that they are activated when the wet well levels reach 150" below the 11.3'.

b. **Bound Brook PS** – This pump station has 2 pumps that were said to be reliable. Line pressure and wet well levels are continuously monitored. The station has a 500 gallon diesel tank and an emergency generator that can automatically be brought online. EPA inspected the first manhole upstream of the Pump Station, the flow in the manhole was not surcharged. A pipe was seen entering the manhole. The pipe was said to be an old storm water pipe that was valved off and no longer used. MCUA must verify that this pipe is valved off and it does not convey wastewater from the sanitary manhole to an overflow point or discharge point to receiving waters.

c. **Greenbrook PS** – This pump station has 4 pumps, 3 pumps are in service one pump was out of service because it needed a Variable Frequency Drive. MCUA said that 95% of the time only 1 pump is needed, but on occasion the station has pumped up to 54 MGD. What is status of VFD on pump at Greenbrook PS. As shown in photographs 1569 and 1570 there is a gravity sewer that runs near the pump station that transmits flow towards the Sayreville Pump Station. The Greenbrook PS also pumps flow towards the Sayreville PS. The Greenbrook PS

does not have any backup power on-site for running the sewage pumps. The station does have a small generator for running a 4" sump pump at the station.

d. **Edison PS** – The station has five 34 MGD pumps and two 12 MGD submersible pumps. One of the five 34 MGD pumps was out of service. This pump station can receive and pump over 80 MGD. There are 3 screens at the station and MCUA reported that blinding has not been a problem. The station is equipped with an emergency gas generator that needs to be switched on manually because flooding from Sandy destroyed the automatic controls. EPA viewed the first manhole upstream of the Edison Pump Station, photograph 1573 and there was debris up the manhole on the 3rd ring below the top. MCUA personnel said that the surcharging of the sewer was due to Sandy. Manhole upstream of the Edison PS were reported overflowing after Sandy. But otherwise the manholes upstream of this pump station were said not to overflow.

e. **South Amboy PS** – The South Amboy PS pumps approximately 3 MGD and has 4 pumps. One of the pumps was out of service during the inspection. MCUA staff explained that the station can be operated with one pump. The pump station is equipped with a permanent generator and a 2,000 gallon diesel tank, as well as a backup generator with its own tank. MCUA said that the station is manned during storms. As shown in photographs 1575 and 1576 there was debris on the manhole ladder on the second rung from the top. The South Amboy PS did suffer damage during Sandy. Because the fuel storage exceeds 1,320 gallons, MCUA should verify that it has a Spill Prevention Control and Countermeasures ("SPCC") Plan in accordance with 40 CFR Part 112 for the diesel fuel tanks at the South Amboy PS

During this inspection, no overflows were seen at the pump stations or at upstream manholes or overflow points.

34. EPA visited the Middlesex and Piscataway metering chambers where MCUA measures participant's flow, BOD, TSS and Chlorine Demand.

Gathered Information

35. At the time of the inspection, the MCUA provided EPA with a binder containing requested information and also submitted supplemental information following the inspection on December 2, 2013.

III. ATTACHMENTS

1. Photos
2. Description of Collection System
3. Map of the MCUA system
4. List of Satellite Communities
5. Sample supplemental participant agreement

6. 2011 and 2012 MCUA comparison between wet weather and dry weather flows of participants.
7. MCUA Billing Rates
8. Bypass Notification Letters 2012 to 2013.
9. Page 3-12 and Chart 3-1 from 1981 Trunk Sewer O&M Manual
10. Wet Weather SOP for Operating WWTP
11. NJAC 7:14A-22.16
12. Capacity Assurance Program Letter to NJDEP
13. Perth Amboy Industrial Users that are Permitted by MCUA
14. Stay of Permit Conditions from NJDEP
15. MCUA requests for affirmative defense and granting of affirmative defense by NJDEP

ATTACHMENT 1 - MCUA October 30 and 31, 2013, Middlesex County NJ
Unedited Digital Photogrpahs Nikon Coolpix P510, Murray Lantner, EPA Region 2, DECA-WCB

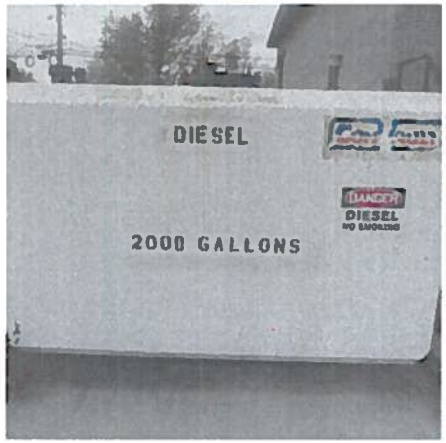
Photolog	Date	Description
DSCN1562	10/30/2013	Photo of map of temporary bypass points constructed after Sandy
DSCN1563	10/30/2013	Foam at MCUA Plant Effluent.
DSCN1564	10/30/2013	Foam at MCUA channel.
DSCN1565	10/30/2013	Construction activity outside In Vicinity of Sayreville Pump Station
DSCN1566	10/30/2013	Bypass outfall at the Sayreville Pump Station to the Washington Canal
DSCN1567	10/30/2013	Put in new Screens at the Old Sayreville Pump Station
DSCN1568	10/31/2013	First manhole upstream of the MCUA Bound Brook PS
DSCN1569	10/31/2013	Gravity sewer that flows near the Greenbrook PS
DSCN1570	10/31/2013	Gravity sewer that flows near the Greenbrook PS
DSCN1571	10/31/2013	Green Brook Pump Station Display/Indicators
DSCN1572	10/31/2013	Middlesex Metering Chamber
DSCN1573	10/31/2013	First manhole upstream of the MCUA Edison Pump Station.
DSCN1574	10/31/2013	Flow in South Amboy (not MCUA manhole) that flows into a metering chamber and then into the South Amboy PS
DSCN1575	10/31/2013	First (MCUA) manhole upstream of the MCUA South Amboy PS, debris seen on the second rung from the top of the manhole ladder.
DSCN1576	10/31/2013	First (MCUA) manhole upstream of the MCUA South Amboy PS, debris seen on the second rung from the top of the manhole ladder.
DSCN1577	10/31/2013	2,000 gallon diesel tank at the MCUA South Amboy Pump Station for the Emergency Generator

MCUA, Sayreville, NJ, EPA Inspection October 30 and 31, 2013 Attachment 1

DSCN1574

DSCN1575

DSCN1576



DSCN1577

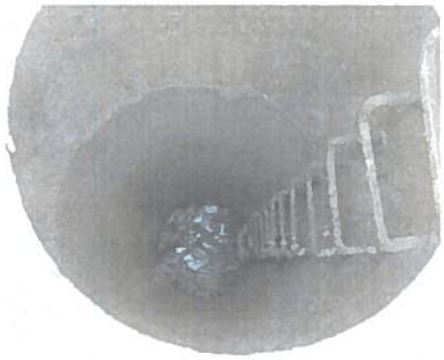
Unedited Digital Photos Taken by M. Lantner, USEPA Region 2
with Nikon Coolpix P510 Camera

MCUA, Sayreville, NJ, EPA Inspection October 30 and 31, 2013 Attachment 1

DSCN1570

DSCN1571

DSCN1572



DSCN1573

Unedited Digital Photos Taken by M. Lantner, USEPA Region 2
with Nikon Coolpix P510 Camera

MCUA, Sayreville, NJ, EPA Inspection October 30 and 31, 2013 Attachment 1

DSCN1566

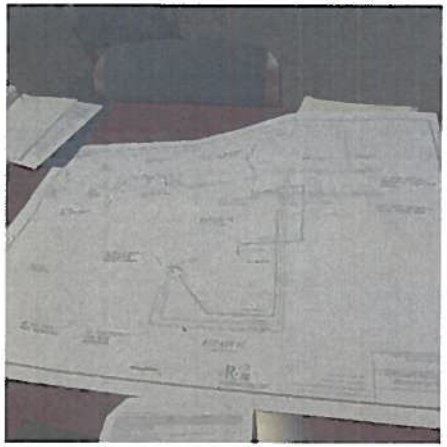
DSCN1567

DSCN1568

DSCN1569

Unedited Digital Photos Taken by M. Lantner, USEPA Region 2 with Nikon Coolpix P510 Camera

MCUA, Sayreville, NJ, EPA Inspection October 30 and 31, 2013 Attachment 1



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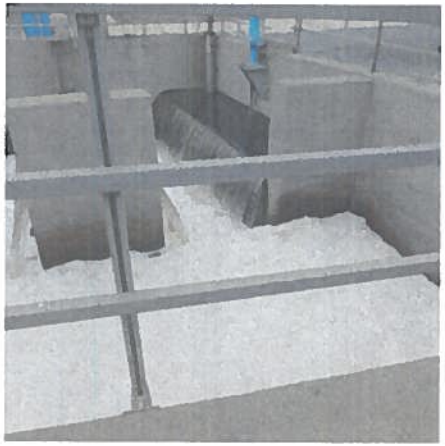


DSCN1563

DSCN1564

DSCN1565

Unedited Digital Photos Taken by M. Lantner, USEPA Region 2
with Nikon Coolpix P510 Camera

Attachment 2

MIDDLESEX COUNTY UTILITIES AUTHORITY

GRAVITY SEWERS

Main Trunk Sewer: Length 60463' (18.44 km)
Pipe Diameter: 60" (152.4cm) to 84" (213.4cm)
From Bound Brook along the Raritan River to the Sayreville Pump Station

Main Trunk Relief Sewer: Length 61,700' (18.82 km)
Pipe Diameter: 66" (107.6cm) to 132" (335.3cm)
From Bound Brook, along the Raritan River, to the Sayreville Pump Station

South River Interceptor: Length 25,585' (7.80 km)
Pipe Diameter: 45" (114.3cm) to 48" (121.9cm)
Along the South River from the Route 18, Bordentown avenue intersection to the Sayreville Pump Station

South River Relief Interceptor: Length 25,377 (7.74 km)
Pipe Diameter: 60" (152.4cm) to 84" (213.4cm)
Same as the South River Interceptor

South Bay Interceptor: Length 9,935' (3.03)
Pipe Diameter: 30" (76.2cm) to 36" (91.44)
Along the Raritan Bay from the Morgan Section of Sayreville to the South Amboy Pump Station

Heyden Interceptor: Length 5,289' (1.61 km)
Pipe Diameter: 60" (152.4cm) to 66" (107.6cm)
Along the Raritan River from the old Hayden Pump station to the Edison Pump Station.

Outfall: Length 17,500' (5.34 km)
Pipe Diameter: 84" (213.4cm)
From the Central Treatment out to the dispersion area in the Raritan Bay.

Supplemental Outfall: Length 5498' (1.68 km)
Pipe Diameter: 132" (213.4cm)
From the Central Treatment Plant out to the Diffussers in the Raritan River.

Total Gravity Lines 211,347' (64.46 km)

Force Mains

Bound Brook Force Main: Length 3300' (1.007 km)
Pipe Diameter: 10" (25.4cm)
From the Bound Brook Pump Station to the Main Trunk Sewer

Greenbrook Force Main: Length 3900' (1.19 km)
Pipe Diameter: 48" (121.9cm)
From the Greenbrook Relief Pump Station to the Main Trunk Relief Sewer.

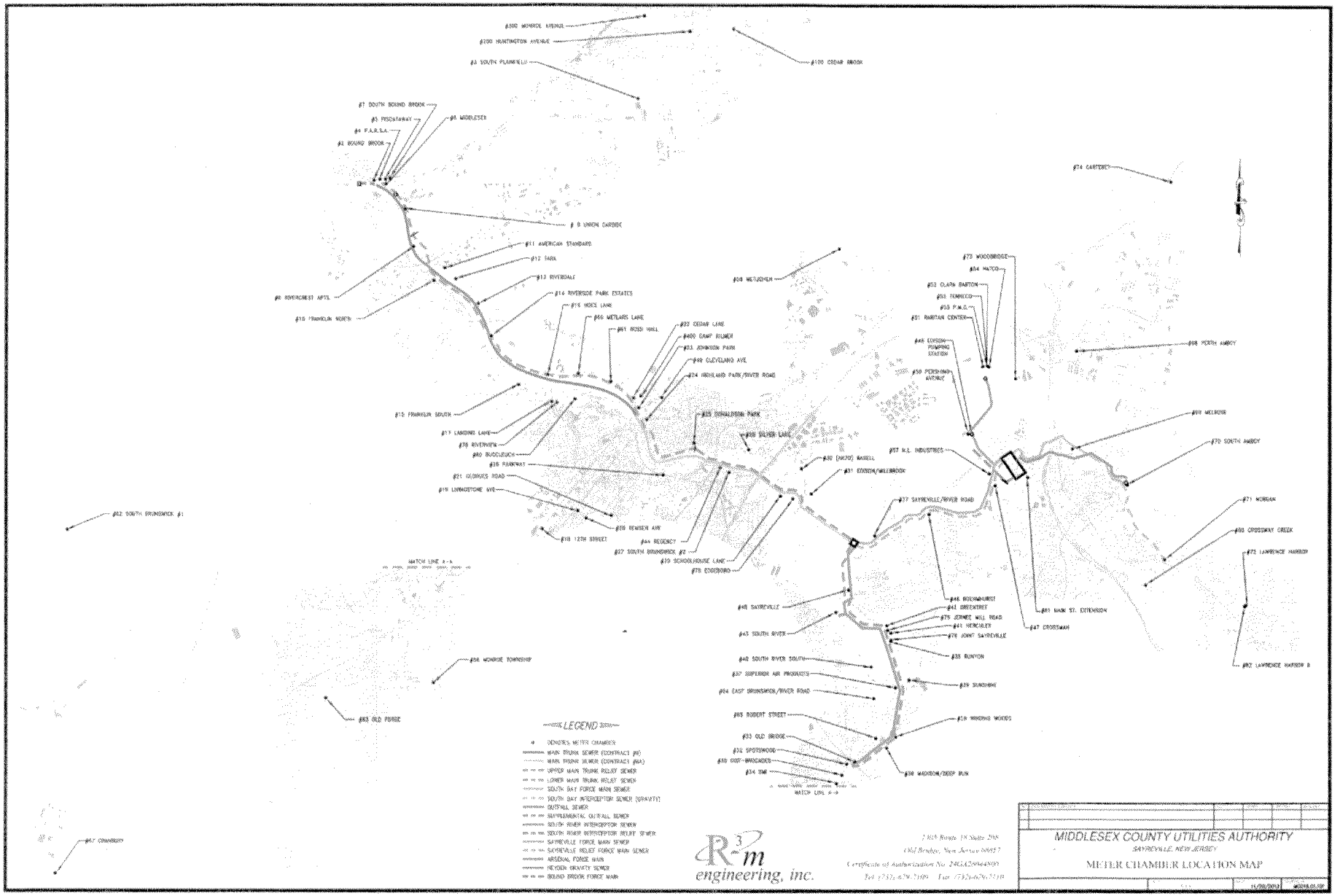
Sayreville Force Mains: Length: 19250' (5.87 km) Length: 19250' (5.87km)
Pipe Diameter: 72" (182.88 cm) 102" (259.08cm)
From the Sayreville Pumping Station to the Central Treatment Plant.

South Amboy Force Main: Length 15,702' (4.79 km)
Pipe Diameter: 24" (60.96cm) to 30" (76.2cm)
From the South Amboy Pump Station to the Central Treatment Plant

Edison Force Main: Length 4080' (1.24 km)
Pipe Diameter: 60" (152.4cm)
From the Edison Pump Station to the Sayreville Force Main.

Total Force Mains 65,482' (19.97 km)

MIDDLESEX COUNTY UTILITIES AUTHORITY	
TOWN	**Total Feet of Sewer line**
Bound Brook	144,000
Carteret	139,860
Cranbury	89,760
E.Brunswick	1,848,000
Edison	2,090,880
Franklin Twp.	1,057,056
Highland Park	152,000
Metuchen	285,120
Middlesex	161,000
Monroe Twp.	1,311,409
New Brunswick	367,750
North Bruns.	792,000
Old Bridge	1,045,120
Perth Amboy	311,682
Piscataway	955,800
PARSA	123,709
Dunellen	87,000
Fanwood	139,230
North Plainfield	210,175
Plainfield	580,800
Scotch Plains	258,030
South Plainfield	517,000
Watchung	166,000
Sayreville	681,120
South Amboy	21,500
So. Bo. Brook	56,123
S.Brunswick	500,000
South River	231,500
Spotswood	277,200
Woodbridge	800,000
Total	**15,400,824**



Attachment 2

Attachment 4

Public Works 2013
Red Needs I & I Report

David Manino
Public Works
Borough Bound Brook
230 Hamilton Street
Bound Brook, NJ 08805
732-558-0248

Thomas Williams
Public Works
East Brunswick Township
One Jean Wailing Civic Center
East Brunswick, NJ 08816
732-390-6886

Donald Rish
Supt. Public Works
Borough of Highland Park
221 South Fifth Avenue
Highland Park, NJ 08904
732-247-9379

Wayne Horbatt
Public Works Superintendent
Monroe Township
One Municipal Plaza
Monroe, NJ 08831
732-656-4575

Christopher Marion
Acting Public Works
Township of Old Bridge
One Old Bridge Plaza
Old Bridge, NJ 08857
732-721-5600 x7925

Henry Zanetti, Jr.
Public Worksr
Township of Piscataway
455 Hoes Lane
Piscataway, NJ 08854
732-562-2390

Mr. Tom Herits
Borough of South Bound Brook
12 Main Street
South Bound Brook, NJ 08880
732-261-7934

Jean P. Mayer
Borough of Spotswood
77 Summerhill Road
Spotswood, NJ 08884
732-251-0700

John Dupont
Public Works
Borough of Carteret
61 Cooke Avenue
Carteret, NJ 07008
732-541-3881

Jeffrey Roderman
Township of Edison
100 Municipal Boulevard
Edison, NJ 08817
732-248-7288

Fred Hall
Public Works
Borough of Metuchen
500 Main Street
Metuchen, NJ 08840
732-632-8519

Steven M. Zarecki
Public Works
City of New Brunswick
78 Bayard Street
New Brunswick, NJ 08901
973-745-5105

Robert Villee
Executive Director
P.A. R.S.A.
200 Clay Ave.
Middlesex, NJ 08846
732-968-2471

Bernard Bailey
Public Works
Borough of Sayreville
167 Main Street
Sayreville, NJ 08872
732-390-7042

Raymond Olsen
Public Works Director
Township of South Brunswick
PO Box 190
Monmouth Junction, NJ 088852
732-329-4000

Dennis Henry
Public Works
Township of Woodbridge
One Main Street
Woodbridge, NJ 07095
732-738-1311

Joe Williams
Director of Public Works
Township of Cranbury
23-A North Main Street
Cranbury, NJ 08512
609-395-0900

Soulmaz Khojasteh
Executive Director
Township of Franklin Sewerage Authority
70 Commerce Drive
Somerset, NJ 08873-3470
732-873-2121

Public Works
Borough of Middlesex
1200 Mountain Avenue
Middlesex, NJ 08846
732-356-7400 x278

Glenn Sandor
Public Works
Township of North Brunswick
710 Hermann Road
North Brunswick, NJ 08902
732-247-0922x550

Frank Dann
Public Works
City of Perth Amboy
260 High Street
Perth Amboy, NJ 08861
732-826-0290

Gerald Magee
Public Works
City of South Amboy
140 North Broadway
South Amboy, NJ 08879
732-721-5328

Adriano Soares
Public Works
Borough of South River
9 Ivan Way
South River, NJ 08882
732-257-9051

Collection System Operators 2013
Red Needs I & I Report

[redacted] V. DeMuro, PE, LS
Sewer Systems Operator Bound Brook
De Muro Associates
24 West Cliff Street
Somerville, NJ 08876
908-725-1990

Leigh Jones
Collection System Operator
East Brunswick Sewer Utility
25 Harts Lane
East Brunswick, NJ 08816
732-257-8313

Robert Fullagar
Collection System Operator
Borough of Highland Park
Middlesex Water Company
PO Box 1500
Iselin, NJ 08830-0452
732-634-1500

Joseph Williams
Collection System Operator
Monroe Township Utility Department
143 Union Valley Road
Monroe, NJ 08831
732-521-1700

Al Lunkenheimer
Collection System Operator
[redacted]idge Municipal Utilities Authority
[redacted]levard West
Cliffwood Beach, NJ 07735
732-566-5557

Edwin Scannell
Collection System Operator
Township of Piscataway
455 Hoes Lane
Piscataway, NJ 08854
732-562-2390

Mr. Tom Herits
Borough of South Bound Brook
12 Main Street
South Bound Brook, NJ 08880
732-261-7934

Kenneth L. Adams
Borough of Spotswood
77 Summerhill Road
Spotswood, NJ 08884
732-251-0700

Joseph Kotowski
Collection System Operator
Borough of Carteret
61 Cooke Avenue
Carteret, NJ 07008
732-750-0087

Barry Miller, Supervisor
Township of Edison Sewer Department
7 Langstaff Avenue
Edison, NJ 08817
732-248-7288

Jim H. Henderson
Metuchen Licensed Operator
Wastewater Management, Inc.
PO Box 1037
Edison, NJ 08818
732-572-6211

Joseph Aidukes
City of New Brunswick
78 Bayard Street
New Brunswick, NJ 08901
973-379-3400

Robert Villee
Executive Director
P.A. R.S.A.
200 Clay Ave.
Middlesex, NJ 08846
732-968-2471

Santo Triolo, Director
Borough of Sayreville
Water Treatment
167 Main Street
Sayreville, NJ 08872
732-390-7076

Robert Griggs
Utilities Director
Township of South Brunswick
PO Box 190
Monmouth Junction, NJ 088852
732-329-4000

Joseph Kotowski
Division of Waste Water
Township of Woodbridge
One Main Street
Woodbridge, NJ 07095
732-750-0087

Joe Williams
Director of Public Works
Township of Cranbury
23-A North Main Street
Cranbury, NJ 08512
609-395-0900

Soulmaz Khojasteh
Executive Director
Township of Franklin Sewerage Authority
70 Commerce Drive
Somerset, NJ 08873-3470
732-873-2121

Jerome Sheehan
Collection System Operator Middlesex
JFS Service LLC
28 Prest's Mill Road
Old Bridge, NJ 08857
732-679-2098

Chris Gianotto
Collection System Operator
Township of North Brunswick
45 Quarry Lane
North Brunswick, NJ 08902
732-297-1134

Joseph Aidukas
Collection System Operator
City of Perth Amboy
260 High Street
Perth Amboy, NJ 08861
732-826-0290

Gerald Garnett
Collection System Operator
City of South Amboy
140 North Broadway
South Amboy, NJ 08879
732-721-5328

Keith Koziatek
Collection System Operator
Borough of South River
9 Ivan Way
South River, NJ 08882
732-257-9051

New Brunswick
Attachment 5

NEW BRUNSWICK

Supplemental Agreement

THE MIDDLESEX COUNTY SEWERAGE AUTHORITY

AND

OTHERS

THIS SUPPLEMENTAL AGREEMENT made and dated as of the day of , One Thousand Nine Hundred and Seventy-five,

BETWEEN

THE MIDDLESEX COUNTY SEWERAGE AUTHORITY (hereinafter referred to as "Authority"), a public body politic and corporate of the State of New Jersey,

AND

THE BOROUGH OF MIDDLESEX, the BOROUGH OF DUNELLEN, the CITY OF NEW BRUNSWICK, THE TOWNSHIP OF NORTH BRUNSWICK, in the County of Middlesex, the BOROUGH OF HIGHLAND PARK, THE TOWNSHIP OF EDISON, THE BOROUGH OF METUCHEN, THE BOROUGH OF SOUTH RIVER, THE BOROUGH OF SAYREVILLE, THE TOWNSHIP OF EAST BRUNSWICK, THE TOWNSHIP OF MADISON, THE MONROE TOWNSHIP MUNICIPAL UTILITIES AUTHORITY, THE TOWNSHIP OF SOUTH BRUNSWICK, THE CITY OF SOUTH AMBOY, THE BOROUGH OF SPOTSWOOD, THE BOROUGH OF SOUTH PLAINFIELD, THE TOWNSHIP OF PISCATAWAY, and THE TOWNSHIP OF WOODBRIDGE, each a municipal corporation of the State of New Jersey, situate in the County of Middlesex, the CITY OF PLAINFIELD, a municipal corporation of the State of New Jersey situate in the County of Union, the BOROUGH OF BOUND BROOK, THE BOROUGH OF SOUTH BOUND BROOK, THE BOROUGH OF NORTH PLAINFIELD, THE TOWNSHIP OF GREEN BROOK, and THE FRANKLIN TOWNSHIP SEWERAGE AUTHORITY, each a Public Corporation of the State of New Jersey, situate in the County of Somerset, (each such party being hereinafter referred to as "Municipality"), and CITY OF PLAINFIELD, THE BOROUGH OF NORTH PLAINFIELD and BOROUGH OF DUNELLEN, acting in Joint Meeting,

AND

UNION CARBIDE AND CARBON CORPORATION, a corporation of the State of New York, ANHEUSER-BUSCH, INC., a corporation of the State of Missouri, KIMBERLY CLARK CORPORATION, a corporation of the State of Delaware acting through its Schweitzer Division, STAUFFER CHEMICAL COMPANY, through its Specialty Chemical Division of Benzol Products, a corporation of the State of Delaware, HAYDEN CHEMICAL CORPORATION, a corporation of the State of Delaware, N L INDUSTRIES INC., acting through its Titanium Pigment Division, a corporation of the State of New Jersey, HERCULES INC., a corporation of the State of Delaware, CATLIN CORPORATION OF AMERICA, a corporation of the State of Delaware, W. R. GRACE & Co., a corporation of the State of Connecticut, acting through its Hatco Chemical Division, SUPERIOR AIR PRODUCTS INC., a corporation of the State of Delaware, UNION CARBIDE CORPORATION, a corporation of the State of New York, acting through its Chemicals and Plastics Division, TENNECO CHEMICALS INC., a corporation of the State of Delaware, acting through its Organics and Polymers Division, ASHLAND CHEMICAL COMPANY, a corporation of the State of Kentucky, acting through its Division of Ashland Oil Co. Division. (each such Company being hereinafter referred to as "Company");

WITNESSETH

WHEREAS, the hereinabove named Companies and Municipalities on various dates and divers times entered into an agreement with the Authority providing for the treatment and disposal of the sewage originating in the hereinabove mentioned Municipalities and Companies, by and through the Trunk System of the Authority (the "Agreement"): and

WHEREAS, The Authority has heretofore determined that it is necessary to construct an Alteration to the Trunk System (such alteration being described in Exhibit A attached hereto and by this reference made a part hereof, hereinafter called the "Trunk System Improvement Project"); and

WHEREAS, in compliance with Article II, Paragraph B of the Agreement, not less than 51% of the Municipalities and 51% of the Companies have executed consents to the construction of the Trunk System Improvement Project and filed such consents with the Authority and the Authority has determined to proceed with the Trunk System improvement Project and to apply for substantial Federal and State grants in aid of the construction of the Trunk System Improvement Project; and

WHEREAS, the EPA has promulgated certain rules and regulations which must be complied with to obtain grants for the construction of wastewater facilities; and

WHEREAS, in order to qualify for whatever substantial Federal and State grants that may be available, it is necessary to amend the Agreement to comply with the aforesaid rules and regulations;

NOW THEREFORE, in consideration of the premises, of the mutual covenants and agreements herein set forth, and of the undertakings of each party to the others, the Agreement is hereby amended and supplemented as follows:

Section 1. The Authority and the Participants agree that the Authority is to undertake construction and place into operation the Trunk System Improvement Project, and in order to meet the requirements promulgated as conditions precedent to receiving Federal and State Aid, the Authority and the Participants agree that the Agreement shall be amended and supplemented as follows:

Section 2. Article I, *Definition,* in the Agreement is hereby supplemented as follows:

"(18) "DEP" means the New Jersey Department of Environmental Protection or its successor from time to time; and

"(19) "EPA" means the United States Environmental Protection Agency or its successor from time to time; and

"(20) "Excessive Infiltration/Inflow" means the quantity of Infiltration/Inflow which can be economically eliminated from sewer system by rehabilitation,

as determined by a cost-effectiveness analysis that compares the cost for correcting the Infiltration/Inflow conditions with the total costs for transportation and treatment of the Infiltration/Inflow.

ystem Evaluation Survey" means and shall consist of a ation of the sewer system to determine the specific location, rate, method of rehabilitation, and cost of rehabilitation vs the cost sportation and treatment for each defined source of Infiltration/Inflow.

Section 3. Article IV, *Charges and Establishment of Rates by Authority* of the Agreement is hereby amended to read as follows:

ake and impose charges with respect to all sewage nk System by any Municipality, Company, or any other , partnership firm or corporation. Said charges may and shall at all times be such that the receipts of the Authority shall be sufficient to pay or provide for the expenses of operation and maintenance of the Trunk System including (without limitation of the foregoing) insurance, renewals and replacements and, subject to the pr Paragraph (B) of Article II hereof, Alterations and Extensions, and the interest on any and all bonds or other obligations of the Authority e due, and to provide for any deficits of the Authority resulting fr eive sums payable to the Authority by any Municipality, any Company, or ther person, partnership, firm or corporation, or from any other cause, and to maintain such reserves or sinking funds for any of the foregoing purposes as may be required by the terms of any contract or other obligation of the Authority, and, if and to the extent deemed necessary by the Authority, to provide annually a sum (not exceeding ten per centum (10%) of the total annual operations budget of the Authority) as a reserve for any such deficits and provide such further sums for reserves as may be approved by written consents given in any Fiscal Year by or on behalf of (a) Municipalities from which the Authority in the next preceding Fiscal Year received not less than fifty-one percentum (51%) of all moneys received by the Authority from Municipalities during such next preceding Fiscal Year and (b) Companies from which the Authority in such next preceding Fiscal Year received not less than fifty-one per centum (51%) of all moneys received by the Authority from Companies during such next preceding Fiscal Year. Such charges made and imposed by the Authority shall be computed for the service rendered by the Trunk System in the treatment and disposal of sewage by the Authority at rates which shall at all times be uniform as to all Participants for the same type, class and amount of sewage and shall give effect to quality differentials and other characteristics in the sewage which must be removed in order to maintain required standards of treatment. The rates applicable with respect to sewage delivered and discharged into the Trunk System by any Participant shall not be more favorable to such Participant than the rates applicable with respect to sewage delivered and discharged into the Trunk System by any other Participant. The Authority prior to the commencement of operations of either the Trunk System

Improvement Project or the expanded sewerage Treatment Plant shall prescribe a Schedule of Rates, which Schedule of Rates shall be in accordance with Rules and Regulations of the EPA and DEP and from time to time whenever it is necessary to revise such rates under this section (but only after public hearing thereon held by the Authority at least twenty days after notice of the time and place of such hearing shall have been mailed to each Participant at its usual place of business) the Authority shall revise the schedule of such rates, which shall at all times comply with the terms of any contract or other obligation of the Authority, and shall be based or computed on the quantity, quality and other characteristics of sewage so discharged and delivered. Any Participant aggrieved by any part of such revised schedule which fails to conform with the provisions of this Agreement may institute appropriate judicial proceedings to have the same reviewed for the purpose of obtaining correction of said part of such revised schedule."

Section4. Article V, *Payments by Participants,* Paragraph (a) of the Agreement is hereby amended as follows:

"(A' Each Participant will pay to the Authority the charges (herein called "annual Charge") made or imposed by the Authority with respect to the sewage delivered and discharged into the Trunk System by or on behalf of such Participant in any Fiscal Year, provided that, in consideration of the location in the Borough of Sayreville of the sewage Treatment Plant and other facilities of the Authority, and in lieu of payment of local property taxes to said Borough by reason of the Authority's acquisition of real property in the Borough of Sayreville there shall be credited against the Annual Charge otherwise payable by the Borough of Sayreville with respect to sewage delivered and discharged in each Fiscal Year, an amount equal to the cost of treating one hundred million (100,000,000) gallons of sewage. Such credit shall be considered part of the expenses of operation and maintenance of the Trunk System. Such Annual Charge shall be computed and established by the Authority on the basis of the quantity, quality and other characteristics of the sewage so delivered as shown by the records of the Authority, at the rate or rates prescribed by the Authority in accordance with Article IV hereof applicable from time to time during such Fiscal Year with respect to the said sewage delivered during such Fiscal Year. Each such Annual Charge shall at all events be due and payable not later than January 15 next ensuing after the close of such Fiscal Year, but provision for and payment of every such Annual Charge will be made by each Participant in accordance with the following Paragraphs of this Article."

Section 5. Article VI, *Meters and Records;* Inspections; and Local Operations, in the Agreement is hereby supplemented by adding the following language thereto:

"(G) *User Charge and Industrial Cost Recovery.* The Authority and each Municipality represents and agrees that it will adopt a system of user charges and industrial cost recovery which, at a minimum, complies with the rules and regulations of the EPA. Each Company, and all industries delivering sewage or other wastes for discharge and treatment into the Local Sewerage System of any

Municipality and the City of Plainfield and the Boroughs of North Plainfield and Dunellen, shall pay their proportionate share of any and all grant moneys received by the Authority from the EPA, allocable to the use of the Trunk System from such users in accordance with the industrial cost recovery provisions of EPA regulations as applicable from time to time. Each Company hereby agrees that it will make all such required payments to the Authority or the Municipality, as the case may be. Each Municipality and the City of Plainfield and the Boroughs of North Plainfield and Dunellen agree to require all industries within their respective jurisdictions to make the required payments to them, and all amounts so received shall be paid over to the Authority.

"(H) *Sewer Use Ordinance.* The Authority, each Municipality, and all public corporations not parties to this Agreement delivering sewage for discharge and treatment into the Local Sewage System of any Municipality or Joint Meeting, shall secure passage of a sewer use ordinance or resolution, as the case may be, in accordance with the rules and regulations of the EPA. Said ordinance or resolution shall provide for (1) the industrial cost recovery charges; (2) pre-treatment standards for the industries served by the Municipalities or public corporations; (3) user charges; (4) control of infiltration-inflow and (5) requirements that new sewers and connections within the Local Sewerage System are properly designed and constructed, in accordance with Article VI (C) of the Service Contract, dated February 5, 1954. Notwithstanding the foregoing or any other provisions of this Agreement, each Municipality or corporation as hereinbefore referred to, to the extent permitted by EPA regulations and Federal law, may raise the necessary funds or sewage treatment through the imposition of the general ad valorem real property taxes in lieu of a schedule of user charges.

"(I) *Infiltration/Inflow.* Each Municipality and all public corporations discharging sewage into the Local Sewerage System of a Municipality will maintain its Local Sewerage System in such a manner as to exclude any excessive infiltration and/or inflow from entering into the Local Sewerage System. If excessive infiltration and/or inflow exists or occurs, the Municipality and public corporation will effect such repairs, or other measures, so as to eliminate the excessive infiltration inflow to normally allowable limits which are acceptable to the DEP and/or the EPA. Furthermore, if as a result of a sewer evaluation survey, rehabilitation work is shown to be required, each Municipality and public corporation will perform such work as may be necessary to rehabilitate its Local Sewerage System.

"(J) *Local Systems.* Each Municipality and/or the City of Plainfield, the Borough of North Plainfield, and the Borough of Dunellen, acting in Joint Meeting, at its own cost and expense will construct, install and operate any and all necessary Local Sewerage Systems and extensions thereto necessary to cause the same to reach to and deliver sewage at the point or points of connection to the Trunk System, and each public corporation discharging sewage into the Local Sewerage System of a municipality shall at its own cost and expense construct, install, and operate any and

all necessary local sewerage systems and extensions thereto necessary to cause the same to reach to and deliver sewerage into the local collection system of a Municipality, and after the making of such connection or connections each Municipality and/or Joint Meeting will keep its Local Sewerage System connected with the Trunk System and will deliver and discharge into the Trunk System all sewage originating in and collected by the Municipality, excepting however, such sewage which the Authority exempts from this regulation.

"(K) The Authority and the participants hereby agree that the Authority and the Participants will abide by EPA and DEP regulations as may be in effect from time to time."

Section 6. *Severability of Invalid Provisions.* If one or more of the covenants or agreements provided in this Supplemental Agreement, on the part of the Authority, Municipality or Company to be performed should be contrary to law, then such covenant or covenants, agreement or agreements, shall be deemed separable from the remaining covenants and agreements, and shall in no way affect the validity of the other provisions of this Supplemental Agreement.

Section 7. *Effective Date.* This Supplemental Agreement shall be in full force and effect and be legally binding upon the Authority and upon each Participant and their successors and assigns, upon its execution and delivery by the Authority, and the Participant, except that the method of computing rates for the treatment of sewage delivered to the Authority as established in Section 3 of this Supplemental Agreement shall not become effective until January 1 of the first year in which the Authority estimates that either the Trunk System Improvement Project or the current treatment plant expansion will be placed into operation.

Section 8. *Execution.* This Supplemental Agreement may be executed in any number of counterparts each of which shall be executed by the Authority and any one or more of the Municipalities and Companies and all of which shall be regarded for all purposes as one original and shall constitute and be but one and the same.

IN WITNESS WHEREOF, the Authority and the Municipalities and the Companies have caused their respective corporate seals to be hereunto affixed and attested and these presents to be signed by their respective officers thereunto duly authorized and this Agreement to be dated as of the day and year first above written.

MIDDLESEX COUNTY SEWERAGE AUTHORITY

Attest:

Anthony J. Popowski (signature)

Anthony J. Popowski, Sec.

by H. Mat Adams (signature)

H. Mat Adams, Chairman

Attest:

William J. [signature]

by Richard T. [signature]

SCHEDULE "A"

The Project as so defined is as follows:

(a) A trunk sewer extending from the Borough of Bound Brook, N.J. in a general direction downstream along or near the Raritan River to a point in the Borough of Sayreville, N.J., southerly of the Raritan River and near the South River; and

(b) An intercepting sewer extending from a point within a one mile radius of Old Bridge in the Township of Madison, N.J., near the New Jersey State Highway, Route S - 28, in a general direction downstream along or near the South River to or near said point in the Borough of Sayreville; and

(c) A sewerage pumping station at or near said point in the Borough of Sayreville, ther with a force main or pressure sewer extending therefrom in a generally easterly direction to a point in the said Borough of Sayreville near the property of National Lead Co., and

(d) An out-fall relief extending from the Authority's sewage disposal plant in a general easterly direction to a point in Raritan Bay; and

(e) All connections, river crossings, manholes, valves, pumping stations, meters, structures, equipment, apparatus and other real or tangible personal property appurtenant for the efficient construction and operation of the above described facilities.

Attachment 6

Participant	Connection	8/14/2011 5.77" rain	2011 max rain-date varies	Dry Period 7/11/2011 to 7/24/2011	8/14/2011 Difference		2011 max Difference	
					mg	%	mg	%
Bound Brook	Bound Brook	4.880	5.110	1.173	3.707	316%	3.937	336%
Carteret	Total	15.420	15.420	2.348	13.072	557%	13.072	557%
Cranbury	Total	0.403	0.825	0.306	0.097	32%	0.519	169%
E.Brunswick	Old Bridge	2.550	3.065	1.459	1.091	75%	1.606	110%
	River Road	0.287	1.427	0.246	0.040	16%	1.180	479%
	Sch House Ln	3.930	17.065	2.054	1.876	91%	15.011	731%
Edison	Cedar Lane	5.370	6.450	0.889	4.481	504%	5.561	625%
	Clara Barton	4.370	8.265	2.151	2.219	103%	6.114	284%
	Johnson Park	21.970	23.890	5.396	16.574	307%	18.494	343%
	Pershing Ave.	0.993	2.300	0.449	0.545	121%	1.851	413%
	Raritan Center	0.413	0.630	0.336	0.078	23%	0.294	88%
	Silver Lake	6.140	9.840	2.515	3.625	144%	7.325	291%
Franklin Twp.	North	2.577	6.480	2.300	0.277	12%	4.180	182%
	South	4.820	5.630	1.474	3.346	227%	4.156	282%
	RiverView	2.127	7.460	1.294	0.832	64%	6.166	476%
Highland Park	Cleveland Ave.	1.830	2.230	0.171	1.659	968%	2.059	1201%
	Donaldson Pk.	4.940	5.428	0.689	4.251	617%	4.738	687%
	River Road	0.111	0.269	0.074	0.037	50%	0.195	262%
Metuchen	Metuchen	3.200	4.860	1.297	1.903	147%	3.563	275%
Middlesex	Middlesex	6.820	6.820	1.359	5.461	402%	5.461	402%
Monroe Twp.	Monroe Twp.	0.650	1.000	0.412	0.238	58%	0.588	143%
	Old Forge Rd.	4.520	4.610	2.887	1.633	57%	1.723	60%
New Brunswick	Bucc. Towers	0.044	0.173	0.036	0.008	22%	0.137	381%
	Landing Lane	20.460	31.895	3.951	16.509	418%	27.944	707%
	Parkway	10.470	14.220	4.589	5.881	128%	9.631	210%
	Regency Apts.	0.080	0.180	0.081	-0.001	-1%	0.099	123%
North Bruns.	Georges Road	0.090	0.195	0.043	0.047	111%	0.152	357%
	Livingston Ave	0.330	0.538	0.026	0.304	1169%	0.512	1969%
	Remsen Ave.	3.710	5.490	1.034	2.676	259%	4.456	431%
	Twelfth St.	9.810	12.860	2.769	7.041	254%	10.091	364%
Old Bridge	Laurence Har.	0.490	0.740	0.107	0.383	357%	0.633	591%
	Laurence Har. II	2.990	2.990	0.912	2.078	228%	2.078	228%
	Madison	5.810	5.810	2.969	2.841	96%	2.841	96%
	Runyon	0.860	2.150	0.860	0.000	0%	1.290	150%
Perth Amboy	Total	11.420	11.420	4.314	7.106	165%	7.106	165%
Piscataway	Piscataway	17.390	22.670	4.314	13.076	303%	18.356	425%
	Am. Standard	0.240	0.330	0.151	0.089	58%	0.179	118%
	Hoes Lane	0.900	2.735	0.286	0.614	215%	2.449	857%
	Metlars Ln.	0.653	1.093	0.077	0.576	747%	1.015	1316%
	Rivercrest	0.253	0.550	0.218	0.035	16%	0.332	152%
	Riverdale	0.490	0.810	0.136	0.354	259%	0.674	494%
	Riverside	0.853	1.590	0.186	0.668	359%	1.404	756%
	Ross Hall	0.440	0.610	0.093	0.347	374%	0.517	557%
	Tara	2.070	2.070	0.107	1.963	1832%	1.963	1832%
PARSA	PARSA	24.371	34.338	10.916	13.455	123%	23.422	215%
Sayreville	Sayreville	0.843	6.440	0.344	0.499	145%	6.096	1771%
	Boehmhurst	1.300	1.300	0.374	0.926	248%	0.926	248%
	Crossman	1.630	1.630	0.365	1.265	347%	1.265	347%
	Crossway Creek	0.320	1.660	0.642	-0.322	-50%	1.018	159%
	Say Joint Sayreville	0.410	2.033	0.358	0.052	15%	1.675	468%
	Melrose	0.359	0.428	0.139	0.220	158%	0.289	207%
	Morgan	0.832	0.832	0.339	0.493	145%	0.493	145%
	River Road	0.190	0.425	0.151	0.039	26%	0.274	182%
	Roberts St.	0.027	0.172	0.015	0.012	79%	0.157	1041%
	Jersey Mill	0.867	3.865	0.839	0.028	3%	3.026	361%
	Main St.	0.020	0.088	0.042	-0.022	-52%	0.046	111%
	Winding Wood	0.567	0.840	0.374	0.193	52%	0.466	125%
South Amboy	Total	1.370	1.370	0.691	0.679	98%	0.679	98%
So. Bo. Brook	So. Bo. Brook	1.207	2.522	0.432	0.775	179%	2.090	484%
S.Brunswick	So. Bruns.	5.147	6.565	3.799	1.348	35%	2.766	73%
South River	South River	1.820	6.945	0.544	1.276	235%	6.401	1178%
	South River So.	0.743	4.720	0.428	0.315	74%	4.292	1003%
Spotswood	Total	1.040	2.095	0.617	0.423	69%	1.478	239%
Woodbridge	ACTUAL	33.260	33.260	4.609	28.651	622%	28.651	622%
Hatco	Total	0.820	0.820	0.161	0.659	410%	0.659	410%
Hercules	Hercules	0.550	4.520	0.331	0.219	66%	4.189	1267%
Greentree	Hercules"D"	0.000	2.320	0.000				
SMI	Total	3.120	3.650	2.674	0.446	17%	0.976	36%
PMC Inc.	Total	0.017	0.210	0.003	0.014	483%	0.207	7250%
AKZO Inc.	Total	0.360	0.360	0.124	0.236	190%	0.236	190%
Union Carbide	Total	3.540	3.540	0.149	3.391	2271%	3.391	2271%
Edgeboro	Total	0.400	2.180	0.141	0.259	183%	2.039	1441%
Participant	**Total**	**273.304**	**389.318**	**88.141**	**185.163**	**210%**	**301.178**	**342%**
Plant	**Total**	**283.750**	**425.610**	**105.374**	**178.376**	**169%**	**320.236**	**304%**

All Connections are Actuals

[illegible]

Participant	Connection	1/12/2012 0.72" rain	2012 max rain-date varies	Dry Period 4/5/2012 to 4/18/2012	1/12/2012 Difference		2012 max Difference	
					mg	%	mg	%
Bound Brook	Bound Brook	2.310	3.450	1.009	1.301	129%	2.441	242%
Carteret	Total	7.360	8.620	2.451	4.909	200%	6.169	252%
Cranbury	Total	0.480	0.597	0.290	0.190	65%	0.306	106%
E.Brunswick	Old Bridge	1.670	2.500	1.506	0.164	11%	0.994	66%
	River Road	0.270	1.420	0.240	0.030	13%	1.180	493%
	Sch House Ln	2.730	3.690	1.819	0.911	50%	1.871	103%
Edison	Cedar Lane	2.470	3.020	1.039	1.431	138%	1.981	191%
	Clara Barton	5.090	5.090	2.342	2.748	117%	2.748	117%
	Johnson Park	13.840	13.840	5.673	8.167	144%	8.167	144%
	Pershing Ave.	0.720	2.000	0.496	0.224	45%	1.504	303%
	Raritan Center	0.370	0.410	0.306	0.064	21%	0.104	34%
	Silver Lake	3.600	4.740	2.411	1.189	49%	2.329	97%
Franklin Twp.	North	6.170	6.170	2.152	4.018	187%	4.018	187%
	South	4.870	4.870	1.182	3.688	312%	3.688	312%
	RiverView	2.760	2.760	1.353	1.407	104%	1.407	104%
Highland Park	Cleveland Ave.	0.960	1.020	0.201	0.759	377%	0.819	406%
	Donaldson Pk.	1.740	2.430	0.820	0.920	112%	1.610	196%
	River Road	0.134	0.253	0.037	0.097	262%	0.216	585%
Metuchen	Metuchen	2.300	2.610	1.411	0.889	63%	1.199	85%
Middlesex	Middlesex	2.830	4.620	1.385	1.445	104%	3.235	234%
Monroe Twp.	Monroe Twp.	0.397	0.680	0.326	0.071	22%	0.354	109%
	Old Forge Rd.	3.350	4.520	2.927	0.423	14%	1.593	54%
New Brunswick	Bucc. Towers	0.060	0.061	0.044	0.016	36%	0.017	38%
	Landing Lane	15.730	23.069	5.377	10.353	193%	17.692	329%
	Parkway	7.960	9.250	4.755	3.205	67%	4.495	95%
	Regency Apts.	0.090	0.100	0.077	0.013	17%	0.023	30%
North Bruns.	Georges Road	0.090	0.100	0.029	0.061	215%	0.071	250%
	Livingston Ave	0.160	0.160	0.028	0.132	480%	0.132	480%
	Remsen Ave.	3.080	3.080	1.083	1.997	184%	1.997	184%
	Twelfth St.	5.540	6.850	2.976	2.564	86%	3.874	130%
Old Bridge	Laurence Har.	0.170	0.290	0.111	0.059	53%	0.179	160%
	Laurence Har. II	1.465	1.940	0.953	0.513	54%	0.988	104%
	Madison	4.003	4.291	3.196	0.808	25%	1.096	34%
	Runyon	1.260	1.600	0.979	0.281	29%	0.621	63%
Perth Amboy	Total	9.030	10.820	4.321	4.709	109%	6.499	150%
Piscataway	Piscataway	13.580	14.200	4.434	9.146	206%	9.766	220%
	Am. Standard	0.175	0.175	0.116	0.059	51%	0.059	51%
	Hoes Lane	1.105	1.470	0.909	0.196	22%	0.561	62%
	Metlars Ln.	0.330	0.610	0.184	0.146	79%	0.426	232%
	Rivercrest	0.460	0.460	0.205	0.255	125%	0.255	125%
	Riverdale	0.650	0.650	0.164	0.486	297%	0.486	297%
	Riverside	1.020	1.020	0.204	0.816	400%	0.816	400%
	Ross Hall	0.245	0.260	0.051	0.194	380%	0.209	409%
	Tara	0.605	0.870	0.094	0.511	542%	0.776	823%
PARSA	PARSA	19.510	19.760	11.294	8.216	73%	8.466	75%
Sayreville	Sayreville	0.740	0.740	0.379	0.361	95%	0.361	95%
	Boehmhurst	0.575	0.637	0.378	0.197	52%	0.259	69%
	Crossman	0.545	1.030	0.414	0.131	32%	0.616	149%
	Crossway Creek	0.470	0.800	0.541	-0.071	-13%	0.259	48%
	Say Joint Sayreville	0.200	0.630	0.239	-0.039	-16%	0.391	164%
	Melrose	0.179	0.295	0.176	0.002	1%	0.119	68%
	Morgan	0.365	0.687	0.311	0.054	17%	0.376	121%
	River Road	0.382	0.491	0.219	0.163	74%	0.272	124%
	Roberts St.	0.021	0.113	0.019	0.002	8%	0.094	483%
	Jerney Mill	0.920	1.155	0.878	0.042	5%	0.278	32%
	Main St.	0.018	0.018	0.018	0.000	0%	0.000	0%
	Winding Wood	0.360	0.679	0.320	0.040	13%	0.359	112%
South Amboy	Total	0.830	1.070	0.673	0.157	23%	0.397	59%
So. Bo. Brook	So. Bo. Brook	1.120	1.120	0.411	0.709	172%	0.709	172%
S.Brunswick	So. Bruns.	4.830	5.000	2.856	1.974	69%	2.144	75%
South River	South River	1.430	1.430	0.550	0.880	160%	0.880	160%
	South River So.	0.820	0.930	0.543	0.277	51%	0.387	71%
Spotswood	Total	0.800	0.960	0.627	0.173	28%	0.333	53%
Woodbridge	ACTUAL	10.610	18.015	3.642	6.968	191%	14.373	395%
Hatco	Total	0.450	0.550	0.160	0.290	181%	0.390	244%
Hercules	Hercules	0.500	0.610	0.389	0.111	28%	0.221	57%
Greentree	Hercules"D"							
SMI	Total	2.390	3.490	2.282	0.108	5%	1.208	53%
PMC Inc.	Total	0.010	2.470	0.008	0.003	33%	2.463	32833%
AKZO Inc.	Total	0.159	0.205	0.071	0.088	123%	0.134	188%
Union Carbide	Total	0.645	1.100	0.084	0.561	672%	1.016	1216%
Edgeboro	Total	1.590	1.860	0.081	1.509	1870%	1.779	2204%
Participant	**Total**	**183.697**	**226.480**	**89.227**	**94.470**	**106%**	**137.253**	**154%**
Plant	**Total**	**186.170**	**186.170**	**87.616**	**98.554**	**112%**	**98.554**	**112%**

All Connections are Actuals 2012 I&I 4/29/2013

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MCUA128

27-OCT-11

MIDDLESEX COUNTY UTILITIES AUTHORITY

2012
SCHEDULE OF O&M RATES

FLOW:	FLAT RATE CHARGE @	$300.41	PER MILLION GALLONS
BOD:	FLAT RATE CHARGE @	$437.85	PER TON
SS:	FLAT RATE CHARGE @	$535.77	PER TON
CD:	FLAT RATE CHARGE @	$28.48	PER CWT

MIDDLESEX COUNTY UTILITIES AUTHORITY
2012
SCHEDULE OF DEBT SERVICE RATES

MILLION GALLONS PER QUARTER	FLOW	CHARGE PER MILLION GALLONS
First 5 at		$1,789.11
Next 5 at		$1,176.85
Next 30 at		$865.83
Next 60 at		$413.81
Next 100 at		$216.24
Next 200 at		$178.94
OVER 400 at		$157.87

TONS PER QUARTER	BOD	CHARGE PER TON
First 30 at		$194.43
Next 70 at		$182.24
Next 100 at		$164.22
Next 200 at		$145.05
Next 400 at		$116.40
Over 800 at		$96.67

TONS PER QUARTER	S.S.	CHARGE PER TON
First 10 at		$277.57
Next 70 at		$268.20
Next 170 at		$226.64
Next 450 at		$128.38
Over 700 at		$121.99

HUNDREDWEIGHTS PER QUARTER	C.D.	CHARGE PER SHORT HUNDREDWEIGHT
First 30 at		$105.01
Next 60 at		$96.05
Next 180 at		$92.35
Next 540 at		$87.72
Over 810 at		$82.46

MIDDLESEX COUNTY UTILITIES AUTHORITY
2012
ESTIMATED DAILY FLOWS AND CONCENTRATIONS

PARTICIPANT	FLOW MGD	BOD MG/L	S.S. MG/L	C.D. MG/L
BOUND BROOK	1.268	165	206	2.2
CARTERET	3.574	165	172	3.1
CRANBURY	0.306	205	248	3.0
EAST BRUNSWICK	4.066	237	315	3.2
EDISON	15.432	113	195	1.9
FRANKLIN TOWNSHIP	6.175	185	262	2.8
HIGHLAND PARK	1.672	110	150	2.0
METUCHEN	1.781	100	109	2.3
MIDDLESEX	1.749	139	213	2.2
MONORE TOWNSHIP	3.366	260	366	3.5
NEW BRUNSWICK	11.923	120	192	2.3
NORTH BRUNSWICK	5.213	124	163	2.2
OLD BRIDGE TOWNSHIP	5.607	205	374	2.3
PERTH AMBOY	5.563	195	186	2.9
PISCATAWAY TOWNSHIP	8.557	160	198	2.8
PARSA	12.678	311	293	4.7
SAYREVILLE	3.934	214	353	2.6
SOUTH AMBOY	0.743	134	166	2.6
SOUTH BOUND BROOK	0.514	183	265	2.5
SOUTH BRUNSWICK	2.776	408	350	15.8
SOUTH RIVER	1.639	163	193	3.0
SPOTSWOOD	0.634	293	392	3.9
WOODBRIDGE	6.328	77	238	1.6
CHEMTURA CORP.	0.197	2,422	266	4.7
ASHLAND AQUALON	0.393	2,255	86	61.5
SCHWEITZER-MAUDUIT	2.404	771	638	120.0
EQUISTAR CHEMICALS	0.131	679	3,852	1.0
UNION CARBIDE CORP.	0.306	9	26	1.7

MIDDLESEX COUNTY UTILITIES AUTHORITY
2012
ESTIMATED QUARTERLY FLOWS AND LOADINGS

PARTICIPANT	FLOW MG	BOD TONS	S.S. TONS	C.D. CWT
BOUND BROOK	116.00	80.00	100.00	21.00
CARTERET	327.00	225.00	235.00	86.00
CRANBURY	28.00	24.00	29.00	7.00
EAST BRUNSWICK	372.00	368.00	489.00	99.00
EDISON	1412.00	668.00	1151.00	226.00
FRANKLIN TOWNSHIP	565.00	436.00	618.00	130.00
HIGHLAND PARK	153.00	70.00	96.00	25.00
METUCHEN	163.00	68.00	74.00	31.00
MIDDLESEX	160.00	93.00	142.00	30.00
MONORE TOWNSHIP	308.00	334.00	470.00	91.00
NEW BRUNSWICK	1091.00	545.00	874.00	207.00
NORTH BRUNSWICK	477.00	247.00	325.00	88.00
OLD BRIDGE TOWNSHIP	513.00	440.00	800.00	100.00
PERTH AMBOY	509.00	415.00	395.00	123.00
PISCATAWAY TOWNSHIP	783.00	523.00	646.00	183.00
PARSA	1160.00	1508.00	1420.00	458.00
SAYREVILLE	360.00	321.00	530.00	78.00
SOUTH AMBOY	68.00	38.00	47.00	15.00
SOUTH BOUND BROOK	47.00	36.00	52.00	10.00
SOUTH BRUNSWICK	254.00	433.00	371.00	335.00
SOUTH RIVER	150.00	102.00	121.00	37.00
SPOTSWOOD	58.00	71.00	95.00	19.00
WOODBRIDGE	579.00	185.00	576.00	75.00
CHEMTURA CORP.	18.00	182.00	20.00	7.00
ASHLAND AQUALON	36.00	339.00	13.00	185.00
SCHWEITZER-MAUDUIT	220.00	708.00	586.00	2205.00
EQUISTAR CHEMICALS	12.00	34.00	193.00	1.00
UNION CARBIDE CORP.	28.00	1.00	3.00	4.00
MUNICIPAL TOTAL	9653.00	7230.00	9656.00	2474.00
INDUSTRIAL TOTAL	314.00	1264.00	815.00	2402.00
COMBINED TOTAL	9967.00	8494.00	10471.00	4876.00

MIDDLESEX COUNTY UTILITIES AUTHORITY
2012
ESTIMATED QUARTERLY O&M CHARGES

PARTICIPANT	FLOW	BOD	S.S.	C.D.	TOTAL
BOUND BROOK	34,847.56	35,028.00	53,577.00	598.08	124,050.64
CARTERET	98,234.07	98,516.25	125,905.95	2,449.28	325,105.55
CRANBURY	8,411.48	10,508.40	15,537.33	199.36	34,656.57
EAST BRUNSWICK	111,752.52	161,128.80	261,991.53	2,819.52	537,692.37
EDISON	424,178.92	292,483.80	616,671.27	6,436.48	1,339,770.47
FRANKLIN TOWNSHIP	169,731.65	190,902.60	331,105.86	3,702.40	695,442.51
HIGHLAND PARK	45,962.73	30,649.50	51,433.92	712.00	128,758.15
METUCHEN	48,966.83	29,773.80	39,646.98	882.88	119,270.49
MIDDLESEX	48,065.60	40,720.05	76,079.34	854.40	165,719.39
MONORE TOWNSHIP	92,526.28	146,241.90	251,811.90	2,591.68	493,171.76
NEW BRUNSWICK	327,747.31	238,628.25	468,262.98	5,895.36	1,040,533.90
NORTH BRUNSWICK	143,295.57	108,148.95	174,125.25	2,506.24	428,076.01
OLD BRIDGE TOWNSHIP	154,110.33	192,654.00	428,616.00	2,848.00	778,228.33
PERTH AMBOY	152,908.69	181,707.75	211,629.15	3,503.04	549,748.63
PISCATAWAY TOWNSHIP	235,221.03	228,995.55	346,107.42	5,211.84	815,535.84
PARSA	348,475.60	660,277.80	760,793.40	13,043.84	1,782,590.64
SAYREVILLE	108,147.60	140,549.85	283,958.10	2,221.44	534,876.99
SOUTH AMBOY	20,427.88	16,638.30	25,181.19	427.20	62,674.57
SOUTH BOUND BROOK	14,119.27	15,762.60	27,860.04	284.80	58,026.71
SOUTH BRUNSWICK	76,304.14	189,589.05	198,770.67	9,540.80	474,204.66
SOUTH RIVER	45,061.50	44,660.70	64,828.17	1,053.76	155,604.13
SPOTSWOOD	17,423.78	31,087.35	50,898.15	541.12	99,950.40
WOODBRIDGE	173,937.39	81,002.25	308,603.52	2,136.00	565,679.16
CHEMTURA CORP.	5,407.38	79,688.70	10,715.40	199.36	96,010.84
ASHLAND AQUALON	10,814.76	148,431.15	6,965.01	5,268.80	171,479.72
SCHWEITZER-MAUDUIT	66,090.20	309,997.80	313,961.22	62,798.40	752,847.62
EQUISTAR CHEMICALS	3,604.92	14,886.90	103,403.61	28.48	121,923.91
UNION CARBIDE CORP.	8,411.48	437.85	1,607.31	113.92	10,570.56
MUNICIPAL TOTAL	2,899,857.73	3,165,655.50	5,173,395.12	70,459.52	11,309,367.87
INDUSTRIAL TOTAL	94,328.74	553,442.40	436,652.55	68,408.96	1,152,832.65
COMBINED TOTAL	$2,994,186.47	$3,719,097.90	$5,610,047.67	$138,868.48	$12,462,200.52

MIDDLESEX COUNTY UTILITIES AUTHORITY
2012
ESTIMATED YEARLY O&M CHARGES

PARTICIPANT	FLOW	BOD	S.S.	C.D.	TOTAL
BOUND BROOK	139,390.24	140,112.00	214,308.00	2,392.32	496,202.56
CARTERET	392,936.28	394,065.00	503,623.80	9,797.12	1,300,422.20
CRANBURY	33,645.92	42,033.60	62,149.32	797.44	138,626.28
EAST BRUNSWICK	447,010.08	644,515.20	1,047,966.12	11,278.08	2,150,769.48
EDISON	1,696,715.68	1,169,935.20	2,466,685.08	25,745.92	5,359,081.88
FRANKLIN TOWNSHIP	678,926.60	763,610.40	1,324,423.44	14,809.60	2,781,770.04
HIGHLAND PARK	183,850.92	122,598.00	205,735.68	2,848.00	515,032.60
METUCHEN	195,867.32	119,095.20	158,587.92	3,531.52	477,081.96
MIDDLESEX	192,262.40	162,880.20	304,317.36	3,417.60	662,877.56
MONORE TOWNSHIP	370,105.12	584,967.60	1,007,247.60	10,366.72	1,972,687.04
NEW BRUNSWICK	1,310,989.24	954,513.00	1,873,051.92	23,581.44	4,162,135.60
NORTH BRUNSWICK	573,182.28	432,595.80	696,501.00	10,024.96	1,712,304.04
OLD BRIDGE TOWNSHIP	616,441.32	770,616.00	1,714,464.00	11,392.00	3,112,913.32
PERTH AMBOY	611,634.76	726,831.00	846,516.60	14,012.16	2,198,994.52
PISCATAWAY TOWNSHIP	940,884.12	915,982.20	1,384,429.68	20,847.36	3,262,143.36
PARSA	1,393,902.40	2,641,111.20	3,043,173.60	52,175.36	7,130,362.56
SAYREVILLE	432,590.40	562,199.40	1,135,832.40	8,885.76	2,139,507.96
SOUTH AMBOY	81,711.52	66,553.20	100,724.76	1,708.80	250,698.28
SOUTH BOUND BROOK	56,477.08	63,050.40	111,440.16	1,139.20	232,106.84
SOUTH BRUNSWICK	305,216.56	758,356.20	795,082.68	38,163.20	1,896,818.64
SOUTH RIVER	180,246.00	178,642.80	259,312.68	4,215.04	622,416.52
SPOTSWOOD	69,695.12	124,349.40	203,592.60	2,164.48	399,801.60
WOODBRIDGE	695,749.56	324,009.00	1,234,414.08	8,544.00	2,262,716.64
CHEMTURA CORP.	21,629.52	318,754.80	42,861.60	797.44	384,043.36
ASHLAND AQUALON	43,259.04	593,724.60	27,860.04	21,075.20	685,918.88
SCHWEITZER-MAUDUIT	264,360.80	1,239,991.20	1,255,844.88	251,193.60	3,011,390.48
EQUISTAR CHEMICALS	14,419.68	59,547.60	413,614.44	113.92	487,695.64
UNION CARBIDE CORP.	33,645.92	1,751.40	6,429.24	455.68	42,282.24
MUNICIPAL TOTAL	11,599,430.92	12,662,622.00	20,693,580.48	281,838.08	45,237,471.48
INDUSTRIAL TOTAL	377,314.96	2,213,769.60	1,746,610.20	273,635.84	4,611,330.60
COMBINED TOTAL	$11,976,745.88	$14,876,391.60	$22,440,190.68	$555,473.92	$49,848,802.08

MCUA12B

27-OCT-11

MIDDLESEX COUNTY UTILITIES AUTHORITY
2012
ESTIMATED QUARTERLY DEBT SERVICE PAYMENTS

PARTICIPANT	FLOW	BOD	S.S.	C.D.	TOTAL
BOUND BROOK	69,093.14	14,944.90	26,082.50	2,205.21	112,325.75
CARTERET	109,982.68	38,637.95	56,678.90	8,529.10	213,828.63
CRANBURY	30,414.74	4,666.32	7,871.50	735.07	43,687.63
EAST BRUNSWICK	118,034.98	59,380.10	90,761.32	9,744.45	277,920.85
EDISON	282,809.74	95,216.90	172,866.99	21,472.90	572,366.53
FRANKLIN TOWNSHIP	149,093.85	68,212.10	107,322.34	12,607.30	337,235.59
HIGHLAND PARK	77,094.02	13,122.50	25,175.94	2,625.25	118,017.71
METUCHEN	79,256.42	12,758.02	19,940.50	3,246.35	115,201.29
MIDDLESEX	78,607.70	17,314.02	35,601.38	3,150.30	134,673.40
MONORE TOWNSHIP	106,582.82	54,448.40	88,322.10	9,005.65	258,358.97
NEW BRUNSWICK	232,133.47	80,899.70	139,075.76	19,718.25	471,827.18
NORTH BRUNSWICK	135,201.29	41,829.05	69,707.00	8,721.20	255,458.54
OLD BRIDGE TOWNSHIP	140,884.61	68,677.70	130,048.50	9,836.80	349,447.61
PERTH AMBOY	140,253.13	65,767.70	78,693.60	11,960.85	296,675.28
PISCATAWAY TOWNSHIP	183,509.51	78,338.90	110,916.98	17,501.85	390,267.24
PARSA	243,026.50	179,024.06	205,682.30	42,027.66	669,760.52
SAYREVILLE	115,887.70	52,562.75	96,024.90	7,760.70	272,236.05
SOUTH AMBOY	52,391.38	7,290.82	12,699.10	1,575.15	73,956.45
SOUTH BOUND BROOK	43,701.37	6,926.34	14,040.10	1,050.10	65,717.91
SOUTH BRUNSWICK	96,920.06	67,862.90	75,612.48	31,238.10	271,633.54
SOUTH RIVER	76,445.30	18,918.14	30,841.94	3,822.65	130,028.03
SPOTSWOOD	48,253.28	13,304.74	24,949.30	1,995.19	88,502.51
WOODBRIDE	151,304.03	32,548.40	101,930.38	7,472.55	293,255.36
CHEMTURA CORP.	21,756.44	32,055.74	5,457.70	735.07	60,004.95
ASHLAND AQUALON	37,341.38	55,173.65	3,580.30	17,686.55	113,781.88
SCHWEITZER-MAUDUIT	90,836.10	99,872.90	103,214.18	187,936.80	481,859.98
EQUISTAR CHEMICALS	16,561.46	6,561.86	47,160.02	105.01	70,388.35
UNION CARBIDE CORP.	30,414.74	194.43	832.71	420.04	31,861.92
MUNICIPAL TOTAL	2,760,881.72	1,092,652.41	1,720,845.81	238,002.63	5,812,382.57
INDUSTRIAL TOTAL	196,910.12	193,858.58	160,244.91	206,883.47	757,897.08
COMBINED TOTAL	$2,957,791.84	$1,286,510.99	$1,881,090.72	$444,886.10	$6,570,279.65

MCUA12B

27-OCT-11

MIDDLESEX COUNTY UTILITIES AUTHORITY
2012
ESTIMATED YEARLY DEBT SERVICE PAYMENTS

PARTICIPANT	FLOW	BOD	S.S.	C.D.	TOTAL
BOUND BROOK	276,372.56	59,779.60	104,330.00	8,820.84	449,303.00
CARTERET	439,930.72	154,551.80	226,715.60	34,116.40	855,314.52
CRANBURY	121,658.96	18,665.28	31,486.00	2,940.28	174,750.52
EAST BRUNSWICK	472,139.92	237,520.40	363,045.28	38,977.80	1,111,683.40
EDISON	1,131,238.96	380,867.60	691,467.96	85,891.60	2,289,466.12
FRANKLIN TOWNSHIP	596,375.40	272,848.40	429,289.36	50,429.20	1,348,942.36
HIGHLAND PARK	308,376.08	52,490.00	100,703.76	10,501.00	472,070.84
METUCHEN	317,025.68	51,032.08	79,762.00	12,985.40	460,805.16
MIDDLESEX	314,430.80	69,256.08	142,405.52	12,601.20	538,693.60
MONORE TOWNSHIP	426,331.28	217,793.60	353,288.40	36,022.60	1,033,435.88
NEW BRUNSWICK	928,533.88	323,598.80	556,303.04	78,873.00	1,887,308.72
NORTH BRUNSWICK	540,805.16	167,316.20	278,828.00	34,884.80	1,021,834.16
OLD BRIDGE TOWNSHIP	563,538.44	274,710.80	520,194.00	39,347.20	1,397,790.44
PERTH AMBOY	561,012.52	263,070.80	314,774.40	47,843.40	1,186,701.12
PISCATAWAY TOWNSHIP	734,038.04	313,355.60	443,667.92	70,007.40	1,561,068.96
PARSA	972,106.00	716,096.24	822,729.20	168,110.64	2,679,042.08
SAYREVILLE	463,550.80	210,251.00	384,099.60	31,042.80	1,088,944.20
SOUTH AMBOY	209,565.52	29,163.28	50,796.40	6,300.60	295,825.80
SOUTH BOUND BROOK	174,805.48	27,705.36	56,160.40	4,200.40	262,871.64
SOUTH BRUNSWICK	387,680.24	271,451.60	302,449.92	124,952.40	1,086,534.16
SOUTH RIVER	305,781.20	75,672.56	123,367.76	15,290.60	520,112.12
SPOTSWOOD	193,013.12	53,218.96	99,797.20	7,980.76	354,010.04
WOODBRIDGE	605,216.12	130,193.60	407,721.52	29,890.20	1,173,021.44
CHEMTURA CORP.	87,025.76	128,222.96	21,830.80	2,940.28	240,019.80
ASHLAND AQUALON	149,365.52	220,694.60	14,321.20	70,746.20	455,127.52
SCHWEITZER-MAUDUIT	363,344.40	399,491.60	412,856.72	751,747.20	1,927,439.92
EQUISTAR CHEMICALS	66,245.84	26,247.44	188,640.08	420.04	281,553.40
UNION CARBIDE CORP.	121,658.96	777.72	3,330.84	1,680.16	127,447.68
MUNICIPAL TOTAL	11,043,526.88	4,370,609.64	6,883,383.24	952,010.52	23,249,530.28
INDUSTRIAL TOTAL	787,640.48	775,434.32	640,979.64	827,533.88	3,031,588.32
COMBINED TOTAL	$11,831,167.36	$5,146,043.96	$7,524,362.88	$1,779,544.40	$26,281,118.60

MIDDLESEX COUNTY UTILITIES AUTHORITY
2012
ESTIMATED QUARTERLY O & M AND DEBT SERVICE CHARGES

PARTICIPANT	FLOW	BOD	S.S.	C.D.	TOTAL
BOUND BROOK	103,940.70	49,972.90	79,659.50	2,803.29	236,376.39
CARTERET	208,216.75	137,154.20	182,584.85	10,978.38	538,934.18
CRANBURY	38,826.22	15,174.72	23,408.83	934.43	78,344.20
EAST BRUNSWICK	229,787.50	220,508.90	352,752.85	12,563.97	815,613.22
EDISON	706,988.66	387,700.70	789,538.26	27,909.38	1,912,137.00
FRANKLIN TOWNSHIP	318,825.50	259,114.70	438,428.20	16,309.70	1,032,678.10
HIGHLAND PARK	123,056.75	43,772.00	76,609.86	3,337.25	246,775.86
METUCHEN	128,223.25	42,531.82	59,587.48	4,129.23	234,471.78
MIDDLESEX	126,673.30	58,034.07	111,680.72	4,004.70	300,392.79
MONORE TOWNSHIP	199,109.10	200,690.30	340,134.00	11,597.33	751,530.73
NEW BRUNSWICK	559,880.78	319,527.95	607,338.74	25,613.61	1,512,361.08
NORTH BRUNSWICK	278,496.86	149,978.00	243,832.25	11,227.44	683,534.55
OLD BRIDGE TOWNSHIP	294,994.94	261,331.70	558,664.50	12,684.80	1,127,675.94
PERTH AMBOY	293,161.82	247,475.45	290,322.75	15,463.89	846,423.91
PISCATAWAY TOWNSHIP	418,730.54	307,334.45	457,024.40	22,713.69	1,205,803.08
PARSA	591,502.10	839,301.86	966,475.70	55,071.50	2,452,351.16
SAYREVILLE	224,035.30	193,112.60	379,983.00	9,982.14	807,113.04
SOUTH AMBOY	72,819.26	23,929.12	37,880.29	2,002.35	136,631.02
SOUTH BOUND BROOK	57,820.64	22,688.94	41,900.14	1,334.90	123,744.62
SOUTH BRUNSWICK	173,224.20	257,451.95	274,383.15	40,778.90	745,838.20
SOUTH RIVER	121,506.80	63,578.84	95,670.11	4,876.41	285,632.16
SPOTSWOOD	65,677.06	44,392.09	75,847.45	2,536.31	188,452.91
WOODBRIDGE	325,241.42	113,550.65	410,533.90	9,608.55	858,934.52
CHEMTURA CORP.	27,163.82	111,744.44	16,173.10	934.43	156,015.79
ASHLAND AQUALON	48,156.14	203,604.80	10,545.31	22,955.35	285,261.60
SCHWEITZER-MAUDUIT	156,926.30	409,870.70	417,175.40	250,735.20	1,234,707.60
EQUISTAR CHEMICALS	20,166.38	21,448.76	150,563.63	133.49	192,312.26
UNION CARBIDE CORP.	38,826.22	632.28	2,440.02	533.96	42,432.48
MUNICIPAL TOTAL	5,660,739.45	4,258,307.91	6,894,240.93	308,462.15	17,121,750.44
INDUSTRIAL TOTAL	291,238.86	747,300.98	596,897.46	275,292.43	1,910,729.73
COMBINED TOTAL	$5,951,978.31	$5,005,608.89	$7,491,138.39	$583,754.58	$19,032,480.17

MIDDLESEX COUNTY UTILITIES AUTHORITY
2012
ESTIMATED YEARLY O&M AND DEBT SERVICE CHARGES

PARTICIPANT	FLOW	BOD	S.S.	C.D.	TOTAL
BOUND BROOK	415,762.80	199,891.60	318,638.00	11,213.16	$945,505.56
CARTERET	832,867.00	548,616.80	730,339.40	43,913.52	$2,155,736.72
CRANBURY	155,304.88	60,698.88	93,635.32	3,737.72	$313,376.80
EAST BRUNSWICK	919,150.00	882,035.60	1,411,011.40	50,255.88	$3,262,452.88
EDISON	2,827,954.64	1,550,802.80	3,158,153.04	111,637.52	$7,648,548.00
FRANKLIN TOWNSHIP	1,275,302.00	1,036,458.80	1,753,712.80	65,238.80	$4,130,712.40
HIGHLAND PARK	492,227.00	175,088.00	306,439.44	13,349.00	$987,103.44
METUCHEN	512,893.00	170,127.28	238,349.92	16,516.92	$937,887.12
MIDDLESEX	506,693.20	232,136.28	446,722.88	16,018.80	$1,201,571.16
MONORE TOWNSHIP	796,436.40	802,761.20	1,360,536.00	46,389.32	$3,006,122.92
NEW BRUNSWICK	2,239,523.12	1,278,111.80	2,429,354.96	102,454.44	$6,049,444.32
NORTH BRUNSWICK	1,113,987.44	599,912.00	975,329.00	44,909.76	$2,734,138.20
OLD BRIDGE TOWNSHIP	1,179,979.76	1,045,326.80	2,234,658.00	50,739.20	$4,510,703.76
PERTH AMBOY	1,172,647.28	989,901.80	1,161,291.00	61,855.56	$3,385,695.64
PISCATAWAY TOWNSHIP	1,674,922.16	1,229,337.80	1,828,097.60	90,854.76	$4,823,212.32
PARSA	2,366,008.40	3,357,207.44	3,865,902.80	220,286.00	$9,809,404.64
SAYREVILLE	896,141.20	772,450.40	1,519,932.00	39,928.56	$3,228,452.16
SOUTH AMBOY	291,277.04	95,716.48	151,521.16	8,009.40	$546,524.08
SOUTH BOUND BROOK	231,282.56	90,755.76	167,600.56	5,339.60	$494,978.48
SOUTH BRUNSWICK	692,896.80	1,029,807.80	1,097,532.60	163,115.60	$2,983,352.80
SOUTH RIVER	486,027.20	254,315.36	382,680.44	19,505.64	$1,142,528.64
SPOTSWOOD	262,708.24	177,568.36	303,389.80	10,145.24	$753,811.64
WOODBRIDGE	1,300,965.68	454,202.60	1,642,135.60	38,434.20	$3,435,738.08
CHEMTURA CORP.	108,655.28	446,977.76	64,692.40	3,737.72	$624,063.16
ASHLAND AQUALON	192,624.56	814,419.20	42,181.24	91,821.40	$1,141,046.40
SCHWEITZER-MAUDUIT	627,705.20	1,639,482.80	1,668,701.60	1,002,940.80	$4,938,830.40
EQUISTAR CHEMICALS	80,665.52	85,795.04	602,254.52	533.96	$769,249.04
UNION CARBIDE CORP.	155,304.88	2,529.12	9,760.08	2,135.84	$169,729.92
MUNICIPAL TOTAL	$22,642,957.80	$17,033,231.64	$27,576,963.72	$1,233,848.60	$68,487,001.76
INDUSTRIAL TOTAL	$1,164,955.44	$2,989,203.92	$2,387,589.84	$1,101,169.72	$7,642,918.92
COMBINED TOTAL	$23,807,913.24	$20,022,435.56	$29,964,553.56	$2,335,018.32	$76,129,920.68

Att. 8

MIDDLESEX COUNTY UTILITIES AUTHORITY

MAIN OFFICES:
2571 MAIN STREET • P.O. BOX 159 • SAYREVILLE, NJ 08872-0159
(732) 721-3800 FAX: (732) 721-0206

MIDDLESEX COUNTY LANDFILL OFFICE:
53 EDGEBORO ROAD • EAST BRUNSWICK, NJ 08816-1636
(732) 246-4313 FAX: (732) 246-8846

March 1, 2013

Rai Belonzi, Chief
Bureau of Water Compliance and Enforcement-Central
New Jersey Department of Environmental Protection
Mail Code 44-03
22 South Clinton Avenue
PO Box 420
Trenton, NJ 08625-0422

Re: Affirmative Defense
Dated January 9, 2013
Amendment
Middlesex County Utilities Authority
NJPDES NJ 0020141
Sayreville/Middlesex County
Hurricane Sandy
October 29, 2013

Dear Mr. Belonzi,

As a follow-up to the MCUA's letter of January 9, 2013 requesting an Affirmative Defense for unanticipated bypasses to the Raritan River from its Trunk System at various locations and from the Temporary Wet Weather Overflow Facilities that were installed to minimize uncontrolled overflows from its Trunk System and protect the Sayreville Pump Station from flooding during storm events, the MCUA is amending the tabulation of NJDEP Hotline Case number. The attached tabulation incorporates the controlled overflows that started at 1:00pm on January 16, 2013 and ended at 800am on January 17, 2013 (Hotline Case No. 13-01-16-1502-07, 13-01-16-1508-10, 13-01-17-1135-19 and 13-01-17-1137-42). The controlled overflows were due to a storm event that occurred within the MCUA service area, power failure at the Sayreville Pump Station and a failure of the main drive shaft for Main Pump No. 2E at the Sayreville Pump Station which were all beyond the reasonable control of the Authority.

The MCUA is requesting an Affirmative Defense for an unanticipated and anticipated bypass of untreated effluent to the Raritan River and reiterates the information provided in the attached letter to Rai Belonzi, NJDEP dated January 9, 2013 in support of this request.

If you have any questions or require any further information concerning this event, please contact Kevin Aiello or myself.

Very truly yours,

Richard L. Fitamant
Executive Director

Enc.

c: Wolfgang Skacel, Assistant Commissioner, NJDEP
Maureen Byrne, Principal Environmental Specialist, NJDEP
Barbara Koonz, Esq., Wilentz, Goldman & Spitzer
Donato Tanzi, Chief Engineer/WWD Manager, MCUA
Kevin Aiello, Administrator Environmental Quality, MCUA

Controlled Overflows since November 21, 2011 to January 17, 2013

Case No. Open	Case No. Closed	Start Date	Start Time	Finsh Date	Finsh Time	Event Duration Hours/Minutes	Estimated Volume Discharged
12-11-21-1426-02 Oper 16	12-11-21-1426-02 Oper 16	11/21/12	0:20	11/21/12	5:00	4.40	1,756,000
12-11-21-1435-05 Oper 16	12-11-22-1040-11 Oper 39	11/21/12	14:00	11/22/13	3:00	13.00	3,102,000
12-11-25-0026-17 Oper 18	12-11-25-0839-15 Oper 39	11/25/12	0:20	11/25/12	3:30	3.10	418,000
12-11-25-2018-19 Oper 47	12-11-27-0809-13 Oper 13	11/25/12	20:30	11/26/12	2:00	5.30	726,000
12-11-27-2357-23 Oper 29	12-11-28-1026-29 Oper 34	11/27/12	18:50	11/28/12	3:15	8.25	7,501,000
12-11-28-2107-05 Oper 47	12-11-29-1827-05 Oper 42	11/28/12	13:55	11/29/12	4:10	14.15	3,030,800
12-11-29-2338-53 Oper 18	11-12-01-1618-18 Oper 18	11/29/12	20:25	11/30/12	2:30	6.05	1,263,000
12-12-01-1623-04 Oper 46	12-12-01-1628-49 Oper 46	11/30/12	14:50	12/1/12	1:45	10.55	1,781,000
12-12-02-1239-29 Oper 44	12-12-02-1239-29 Oper 44	12/1/12	17:00	12/2/12	0:25	7.25	3,393,000
12-12-03-1746-05 Oper 46	12-12-03-1844-30 Oper 46	12/2/12	17:30	12/3/12	1:00	7.30	3,551,000
12-12-04-0029-02 Oper 29	12-12-04-1108-08 Oper 44	12/3/12	22:15	12/4/12	1:35	3.20	570,000
12-12-04-2353-23 Oper 29	12-12-05-1942-01 Oper41	12/4/12	22:05	12/5/12	2:30	4.25	773,000
12-12-06-0013-21 Oper 18	12-12-06-1942-42 Oper 43	12/5/12	21:40	12/6/12	1:40	4.00	658,000
12-12-06-2348-52 Oper 18	12-12-07-0755-10 Oper 44	12/6/12	22:10	12/7/12	1:10	3.00	396,000
12-12-07-2341-22 Oper 39	12-12-08-1045-04 Oper50	12/7/12	22:10	12/8/12	2:15	4.05	539,000
12-12-08-1531-19 Oper 47	12-12-09-0957-25 Oper 25	12/8/12	12:15	12/8/12	20:05	7.50	1,698,200
12-12-18-1115-24 Oper 25	12-12-19-029-03 Oper 46	12/18/12	10:50	12/19/12	1:40	15.30	10,941,000
12-12-18-1526-35 Oper 42	12-12-19-0933-04 Oper 46	12/18/12	15:45	12/18/12	16:35	0.50	250,000
12-12-19-2229-49 Oper 42	12-12-20-0937-52 Oper 50	12/19/12	21:15	12/20/12	2:05	5.50	638,000
12-12-21-1318-08 Oper 44	12-12-22-1647-33 Oper 47	12/21/12	8:20	12/22/12	3:15	19.05	34,376,000
12-12-22-1652-49 Oper 47	12-12-22-2028-3 Oper 41	12/22/12	12:40	12/22/12	20:00	7.20	4,305,000
12-12-27-0310-31 Oper 15	12-12-29-1116-43 Oper 39	12/27/12	0:02	12/29/12	2:20	50.18	45,385,600
12-12-27-0314-39 Oper 15	12-12-29-1117-01 Oper 39	12/27/12	0:02	12/28/12	22:58	46.16	61,390,000
13-01-16-1502-07 Oper 47	13-01-17-1135-19 Oper 50	1/16/13	12:59	1/16/13	22:16	9.17	3,064,800
13-01-16-1508-10 Oper 47	13-01-17-1137-42 Oper 50	1/16/13	15:10	1/17/13	8:00	15.5	17,813,000
						Total	209,319,400

Controlled Overflows since November 21, 2011 to January 17, 2013

Case No	Location	Start Date	Start Time	End Date	End Time	Event Duration Hours/Minutes	Estimated Volume Discharged
12-12-22-1702-26 Oper 47	Weber Ave/Sayreville	21-Dec	9:00	21-Dec	9:20	20	2,200
12-12-22-1706-45 Oper 47	Johnson Park/Highland Pk	21-Dec	11:15	21-Dec	13:30	135	14,850
12-12-22-1711-34 Oper 47	Donaldson Park/Highland Par	21-Dec	11:15	21-Dec	13:42	147	16,170
13-01-08-2221-28 Oper 42	Johnson Park/Highland Pk	27-Dec	8:00	27-Dec	13:37	337	37,070
13-01-08-2225-49 Oper 42	Donalson Park/Highland Park	27-Dec	8:25	27-Dec	12:15	230	25,800
						Total	96,090

MIDDLESEX COUNTY UTILITIES AUTHORITY

MAIN OFFICES:
2571 MAIN STREET • P.O. BOX 159 • SAYREVILLE, NJ 08872-0159
(732) 721-3800 FAX: (732) 721-0206

MIDDLESEX COUNTY LANDFILL OFFICE:
53 EDGEBORO ROAD • EAST BRUNSWICK, NJ 08816-1636
(732) 246-4313 FAX: (732) 246-8846

RICHARD L. FITAMANT, EXECUTIVE DIRECTOR
MARGARET M. BRENNAN, COMPTROLLER
DONATO J. TANZI, WASTEWATER DIVISION
PAUL T. CLARK, SOLID WASTE DIVISION

January 9, 2013

REPLY TO:
☒ SAYREVILLE
☐ EAST BRUNSWICK

Rai Belonzi, Chief
Bureau of Water Compliance and Enforcement-Central
New Jersey Department of Environmental Protection
Mail Code 44-03
22 South Clinton Avenue
PO Box 420
Trenton, New Jersey 08625-0422

Re: Affirmative Defense
Upset and Unanticipated Bypass
Middlesex County Utilities Authority
NJPDES NJ 0020141
Sayreville/Middlesex County
Hurricane Sandy
October 29, 2012

Dear Mr. Belonzi:

As a follow up to our November 16, 2012 letter and NJDEP Hot Line Notifications (12-10-29-1923-05 Oper. 46, 12-10-29-1915-40 Oper. 46 and 12-10-29-1937-06 Oper. 46) of October 29, 2012 and the attached list of notifications to date, the Middlesex County Utilities Authority (MCUA) is requesting an Affirmative Defense for unanticipated and anticipated bypasses of untreated effluent to the Raritan River that occurred from October 29, 2012 to December 29, 2012 from its Trunk System at various locations and from the Temporary Wet Weather Overflow Facilities that were installed to minimize uncontrolled overflows in its trunk system and protect the Sayreville Pump Station from flooding during storm events. As the Department is fully aware, the MCUA's South Amboy Pump Station, Edison Pump Station and Sayreville Pump Station sustained devastating damage and were rendered inoperable due to flooding caused by the storm surge which occurred on the Raritan River during Hurricane Sandy. The South Amboy Pump Station was placed back into service on October 31, 2012. The Edison Pump Station was placed back into service with temporary pumps on November 4, 2012 and the Sayreville Pump Station had in place four Temporary Bypass Pumping Systems by November 15, 2012 both with limited pumping capacity.

In accordance with NJAC 7:14A-6.10 the MCUA provides the following information in support of its affirmative defense:

1. MCUA operates a Wastewater Treatment Plant (WWTP) and five Large Pumping Stations serving approximately 800,000 people along with industrial and commercial facilities within its service area. The treated wastewater is discharged to the Raritan Bay/River. During the period

from October 29, 2012 to December 29, 2012 the MCUA bypassed approximately 1,113 million gallons of untreated effluent to the Raritan River. Of that, 926 million gallons was discharged to the Raritan River between October 29 through November 20, 2012 from its trunk sewers and Sayreville Pump Station at the following locations:

Main Trunk Sewer, Johnson Park/Piscataway/Highland Park
Main Trunk Sewer, Donaldson Park/Highland Park
South River Relief Interceptor, Weber Ave/Sayreville
South River Interceptor, Weber Ave/Sayreville
Heyden Gravity Sewer, Cattail Way/Woodbridge
South Bay Interceptor, Henry Street/South Amboy
Sayreville Pump Station Bypass Channel/Sayreville

From the period of November 21, 2012 through December 29, 2012 each discharge event was reported to the NJDEP Hotline and assigned an opening and closing case number. These discharge events occurred during storm events and were necessary to minimize uncontrolled discharges from the MCUA trunk system and prevent flooding of the Sayreville Pump Station. Attached is a tabulation of the case numbers indicating the date/time duration estimated volume of untreated effluent discharged.

2. The following corrective actions were taken by the MCUA to place the Edison Pump Station back in service:

October 29, 2012:	Hurricane Sandy impacts the Edison Pump Station, shutting down operations at approximately 6:30 pm
October 30, 2012:	Initial damage assessment; initiate the mobilization of contractors to site, started dewatering pump station
October 31, 2012:	Contractor on site to assess emergency response measures to restore conveyance capacity
November 1, 2012:	Contractor mobilized to the site to begin providing support to restore conveyance capacity
November 2, 2012:	Contractor initiates layout of bypass pumping system, MCUA initiates delivery of bypass system components
November 4, 2012:	Wet well cleaned/cleared and initiated assembly of bypass pumping system

November 7, 2012: Bypass pumping system completed and operational. Surcharging of Heyden gravity sewer minimized and ceased on November 9, 2012

November 17, 2012: One Main Pump operational

November 20, 2012: Second Main Pump operational

December 6, 2012: Third Main Pump operational, bypass pumping system placed in standby mode

December 21, 2012: Fourth Main Pump operational

Work is ongoing to place the Fifth Main Pump in operational status.

Currently, the Edison Pump Station can convey the wastewater flows entering the pump station to its Central Treatment Plant

Further details on the restoration activities at the Edison Pump Station since the damage sustained due to Hurricane Sandy can be obtained from the MCUA Daily Updates submitted to the Department and posted on the MCUA website.

3. The following corrective actions were taken by the MCUA to place the Sayreville Pump Station back in service:

October 29, 2012: Hurricane Sandy impacts the Sayreville Pump Station, shutting down operations at approximately 7:30pm

October 30, 2012: Initial Damage assessment underway, dewatering operations are initiated. All raw wastewater is overflowing the pump station, and upstream trunk and interceptor systems

October 31, 2012: Contractors remobilize on site to initiate cleanup and restoration activities. Additional dewatering pumps were mobilized to the site.

November 1, 2012: Additional dewatering pumps and initial temporary bypass pumps are mobilized to the site. Temporary Bypass System No. 1 under construction.

November 2, 2012: Temporary Bypass System No. 1 under construction.

November 4, 2012: Temporary Bypass System No. 1 is operational at 1:30am on November 4, partially restoring pump station conveyance capacity, with approximately 20 MGD transferred to the central treatment plant (CTP).

November 5, 2012: Additional temporary bypass pumps are mobilized to the site. Temporary Bypass System Nos 2 and 3 under construction. USEPA begins preparations for diving team to repair damaged sluice gates.

November 6, 2012: Temporary Bypass System Nos. 2 and 3 under construction. USEPA diving team initiates operations to remove debris in OSPS screenings channel No. 2 to allow for repairs.

November 7, 2012: Additional temporary bypass pumps are mobilized to the site. Temporary Bypass System Nos. 2 and 3 under construction. National Guard begins fuel delivery for all operating systems.

November 8, 2012: Temporary Bypass System Nos. 2 and 3 under construction. MCUA personnel manually closing six isolation gate valves (4,000 turns per valve).

November 9, 2012: Temporary Bypass System Nos. 2 and 3 under construction. USEPA diving team installs sluice Gate No 2 in channel.

November 10, 2012: Temporary Bypass System No. 2 is started and is partially operational. Temporary Bypass System Nos. 2 and 3 under construction.

November 11, 2012: Temporary Bypass System No. 3 is started and is operational. Temporary Bypass System No. 2 is operational. Temporary Bypass System Nos. 4 is under construction.

November 12, 2012: Temporary Bypass Pump 1-1 shut down, requires replacements. Replacement of Temporary Bypass 1-1 is delivered to site, installed, and operational. Temporary Bypass System Nos. 2 and 3 are operational. Temporary Bypass System Nos. 4 is under construction.

November 12, 2012: Temporary Bypass Pump 1-1 shut down, requires replacements. Replacement of Temporary Bypass Pump 1-1 is delivered to site, installed, and operational. Temporary Bypass System Nos. 2 and 3 are operational. Temporary Bypass System Nos. 4 is under construction.

November 14, 2012: Additional temporary bypass pumps are mobilized to the site. Temporary Bypass System No. 4 is under construction.

November 16, 2012: Temporary Bypass System No. 4 is started and operational.

November 18, 2012: Temporary Bypass Pump 2-3 pump replaced with larger pump to increase flows to CTP.

November 21, 2012: Temporary Bypass Pump 3-1 shut down due to cracked radiator. Pump replaced with same model pump and placed back in service.

November 25, 2012: Temporary Bypass Pump 1-2 shut down requires replacements. Replacement of Temporary Bypass Pump 1-2 is delivered to site, installed, and operational.

November 26, 2012: Initiated construction of Temporary Wet Weather Overflow Facilities, WW-1 Pump.

November 30, 2012: Completed installation of WW-1 Pump.

December 1, 2012: WW-1 Pump Functional

December 4, 2012: WW-1 Pump Functional with Interim Floatables Control

December 7, 2012: WW-3 Pump Completed with Floatables Control

December 9, 2012: Started Main Pump 3E in the OSPS at 12:15am.

December 15, 2012: WW-2 Pump Completed with Floatables Control

December 21, 2012: Started Main Pump 2E in the OSPS at approximately 3:00pm.
WW-4-1 Pump Completed with Floatables Control

December 26, 2012: WW-4-2 Pump Completed with Floatables Control

January 2, 2013: Completed controls to allow manual back-flushing of Main Pumps 2E and 3E to maintain pumping capacity

January 3, 2013: WW-4-3 Pump Completed with Floatables Control

January 4, 2013 WW-1 Pump Completed with Floatables Control

Work is ongoing to place the remaining pumps in operational status.

Currently, the Sayreville Pump Station can convey the average daily dry weather flow with Main Pumps 2E and 3E to Central Treatment Plant. The Temporary Bypass Systems are operated on a as needed basis.

Further details on the restoration activities at the Sayreville Pump Station since the damage sustained due to Hurricane Sandy can be obtained from the MCUA Daily Updates submitted to the Department and posted on the MCUA website.

4. Pursuant to N.J.A.C. 7:14A-6.10, MCUA was properly operating its facilities at the time Hurricane Sandy occurred; and the MCUA has informed the NJDEP of all remedial measures it has completed and complied with all remedial measures NJDEP has required since the storm and the destruction caused to its pumping stations. The MCUA will continue to inform the NJDEP of its progress to restore its pump stations to pre Hurricane Sandy operational status.

5. The MCUA is committed to supplying its participants with uninterrupted wastewater treatment and has proven this commitment thru numerous capital projects over its 50-year history. During Hurricane Sandy the MCUA received minimal notifications from the 800,000 people and numerous industrial/commercial entities it serves regarding any interruptions in wastewater services.

MCUA asserts the affirmative defense afforded by N.J.A.C. 7:14-8.3(i) for any noncompliance including unpermitted discharges that occurred since Hurricane Sandy and may occur until such time that its pump stations are restored to pre Hurricane Sandy operational status. As required under the regulations we present this letter as documentation that MCUA substantially met the intent of the requirements of N.J.A.C. 7:14-8.3(i)2 and N.J.A.C. 7:14A-6.10.

MCUA notified NJDEP regarding the initial discharges to the Raritan River as soon as practicable (NJDEP Case No. 12-10-29-1923-05, 12-10-29-1915-40, 12-10-29-1937-06) within 24 hours of becoming aware of the discharge and as documented in the attached notified the NJDEP of subsequent discharges. MCUA has been in constant communication with NJDEP regarding the upset and its corrective actions in substantially

reducing the discharge of untreated wastewater to the Raritan River to minimize any threats to human health or the environment.

Please contact Kevin Aiello or myself if you have any questions regarding this submission. Thank you again for your consideration.

Very truly yours,

Richard L. Fitamant
Executive Director

Enc.
C: Wolfgang Skacel, Assistant Commissioner, NJDEP
Maureen Byrne, Principal Environmental Specialist, NJDEP
Barbara Koonz, Esq., Wilentz, Goldman & Spitzer
Donato Tanzi, Chief Engineer/WWD Manager, MCUA
Kevin Aiello, Administrator Environmental Quality, MCUA

Controlled Overflows since November 21, 2012

Case No. Open	Case No. Closed	Start Date	Start Time	Finsh Date	Finsh Time	Event Duration Hours/Minutes	Estimated Volume Discharged
12-11-21-1426-02 Oper 16	12-11-21-1426-02 Oper 16	21-Nov	0:20	21-Nov	5:00	4.40	616,000
12-11-21-1435-05 Oper 16	12-11-22-1040-11 Oper 39	21-Nov	14:00	22-Nov	3:00	13.00	2,592,000
12-11-25-0026-17 Oper 18	12-11-25-0839-15 Oper 39	25-Nov	0:20	25-Nov	3:30	3.10	418,000
12-11-25-2018-19 Oper 47	12-11-27-0809-13 Oper 13	25-Nov	20:30	26-Nov	2:00	5.30	726,000
12-11-27-2357-23 Oper 29	12-11-28-1026-29 Oper 34	27-Nov	18:50	28-Nov	3:15	8.25	7,771,000
12-11-28-2107-05 Oper 47	12-11-29-1827-05 Oper 42	28-Nov	13:55	29-Nov	4:10	14.15	3,030,800
12-11-29-2338-53 Oper 18	11-12-01-1618-18 Oper 18	29-Nov	20:25	30-Nov	2:30	6.05	1,263,000
12-12-01-1623-04 Oper 46	12-12-01-1628-49 Oper 46	30-Nov	14:50	1-Dec	1:45	10.55	1,781,000
12-12-02-1239-29 Oper 44	12-12-02-1239-29 Oper 44	1-Dec	17:00	2-Dec	0:25	7.25	3,393,000
12-12-03-1746-05 Oper 46	12-12-03-1844-30 Oper 46	2-Dec	17:30	3-Dec	1:00	7.30	3,551,000
12-12-04-0029-02 Oper 29	12-12-04-1108-08 Oper 44	3-Dec	22:15	4-Dec	1:35	3.20	570,000
12-12-04-2353-23 Oper 29	12-12-05-1942-01 Oper41	4-Dec	22:05	5-Dec	2:30	4.25	773,000
12-12-06-0013-21 Oper 18	12-12-06-1942-42 Oper 43	5-Dec	21:40	6-Dec	1:40	4.00	658,000
12-12-06-2348-52 Oper 18	12-12-07-0755-10 Oper 44	6-Dec	22:10	7-Dec	1:10	3.00	396,000
12-12-07-2341-22 Oper 39	12-12-08-1045-04 Oper50	7-Dec	22:10	8-Dec	2:15	4.05	539,000
12-12-08-1531-19 Oper 47	12-12-09-0957-25 Oper 25	8-Dec	12:15	8-Dec	20:05	7.50	1,698,200
12-12-18-1115-24 Oper 25	12-12-19-029-03 Oper 46	18-Dec	10:50	19-Dec	1:40	15.30	10,941,000
12-12-18-1526-35 Oper 42	12-12-19-0933-04 Oper 46	18-Dec	15:45	18-Dec	16:35	0.50	250,000
12-12-19-2229-49 Oper 42	12-12-20-0937-52 Oper 50	19-Dec	21:15	20-Dec	2:05	5.50	638,000
12-12-21-1318-08 Oper 44	12-12-22-1647-33 Oper 47	21-Dec	8:20	22-Dec	3:15	19.05	34,116,000
12-12-22-1652-49 Oper 47	12-12-22-2028-3 Oper 41	22-Dec	12:40	22-Dec	20:00	7.20	4,305,000
12-12-27-0310-31 Oper 15	12-12-29-1116-43 Oper 39	27-Dec	0:02	29-Dec	2:20	50.18	45,385,600
12-12-27-0314-39 Oper 15	12-12-29-1117-01 Oper 39	27-Dec	0:02	28-Dec	22:58	46.16	61,390,000
						Total	186,801,600

Uncontrolled Overflows since November 21, 2012

Case No	Location	Start Date	Start Time	End Date	End Time	Event Duration Hours/Minutes	Estimated Volume Discharged
12-12-22-1702-26 Oper 47	Weber Ave/Sayreville	21-Dec	9:00	21-Dec	9:20	20	2,200
12-12-22-1706-45 Oper 47	Johnson Park/Highland Pk	21-Dec	11:15	21-Dec	13:30	135	14,850
12-12-22-1711-34 Oper 47	Donaldson Park/Highland Park	21-Dec	11:15	21-Dec	13:42	147	16,170
13-01-08-2221-28 Oper 42	Johnson Park/Highland Pk	27-Dec	8:00	27-Dec	13:37	337	37,070
13-01-08-2225-49 Oper 42	Donalson Park/Highland Park	27-Dec	8:25	27-Dec	12:15	230	25,800
						Total	96,090

FedEx Shipment Receipt

Address Information

Ship to:	**Ship from:**
Ray Belonzi, Chief	Kevin Aiello
NJDEP Water Compliance & Environmen	Middlesex County Utilities Aut
4 Station Plaza	2571 Main Street
Mail Code 44-03	
Trenton, NJ	Sayreville, NJ
08625	08872
US	US
6092923088	7327213800

Shipment Information:
Tracking no.: 794875813406
Ship date: 03/01/2013
Estimated shipping charges: 14.14

Package Information
Service type: Standard Overnight
Package type: FedEx Envelope
Number of packages: 1
Total weight: 1 LBS
Declared Value: 0.00 USD
Special Services:
Pickup/Drop-off: Use an already scheduled pickup at my location

Billing Information:
Bill transportation to: MCUA-978
Your reference: Affirmative Defense amended
P.O. no.:
Invoice no.:
Department no.:

Thank you for shipping online with FedEx ShipManager at fedex.com.

Please Note

MIDDLESEX COUNTY UTILITIES AUTHORITY
MAIN OFFICES:
2571 MAIN STREET • P.O. BOX 159 • SAYREVILLE, NJ 08872-0159
(732) 721-3800 FAX: (732) 721-0206
MIDDLESEX COUNTY LANDFILL OFFICE:
53 EDGEBORO ROAD • EAST BRUNSWICK, NJ 08816-1636
(732) 246-4313 FAX: (732) 246-8846

RICHARD L. FITAMANT, EXECUTIVE DIRECTOR
MARGARET M. BRENNAN, COMPTROLLER
DONATO J. TANZI, WASTEWATER DIVISION
PAUL T. CLARK, SOLID WASTE DIVISION

November 16, 2012

REPLY TO:
☑ SAYREVILLE
☐ EAST BRUNSWICK

VIA UPS OVERNIGHT/VIA EMAIL

Rai Belonzi, Chief
Bureau of Water Compliance and Enforcement - Central
New Jersey Department of Environmental Protection
Mail Code 44-03
22 South Clinton Avenue
PO Box 420
Trenton, NJ 08625-0420

Re: Affirmative Defense for Upset caused by Hurricane Sandy
Middlesex County Utilities Authority
2571 Main Street Extension
Sayreville, New Jersey 08872
NJPDES Permit No.: NJ0020141

Dear Mr. Belonzi,

This letter serves to notify you that the Middlesex County Utilities Authority ("MCUA") is asserting affirmative defenses under N.J.A.C. 7:14-8.3(i) for potential noncompliance and discharges to the Raritan River resulting from the extensive damaged sustained at its pumping stations, due to the storm surge caused by Hurricane Sandy, at the following locations:

Sayreville Pump Station, 52 Canal Street Sayreville NJ.
Edison Pump Station, Sweetwater Lane, Edison NJ
South Amboy Pump Station, Henry and Roswell Streets, South Amboy NJ

On October 28-29, 2012, Hurricane Sandy caused significant damage to the State, including the aforementioned MCUA's wastewater pumping stations. The storm destroyed electrical and mechanical equipment at the pumping stations which are necessary to convey wastewater to its Central Treatment Plant that is fully operational. This disaster contributed to an upset in MCUA's operations resulting in the discharge of untreated effluent to the Raritan River from its trunk systems at various locations. An upset is defined by N.J.A.C. 7:14-8.2 as "an exceptional incident in which there is unintentional and temporary noncompliance with an effluent limitation because of an event beyond the reasonable control of the permittee, including fire, riot, sabotage, or a flood, storm event, natural cause, or other act of God, or other similar circumstance, which is the cause of the violation."

In addition, MCUA requests that NJDEP confirm that the affirmative defense asserted for the discharge to the Raritan River caused Hurricane Sandy also extend to MCUA's users for enforcement actions and the levying of penalties.

MIDDLESEX COUNTY UTILITIES AUTHORITY

Affirmative Defense

MCUA asserts the affirmative defense afforded by N.J.A.C. 7:14-8.3(i) for any noncompliance including unpermitted discharges that occurred since Hurricane Sandy. As required under the regulations we present this letter as documentation that MCUA met the requirements of N.J.A.C. 7:14-8.3(i)2 and N.J.A.C. 7:14A-6.10.

MCUA notified NJDEP regarding the discharge to the Raritan River as soon as practicable (NJDEP Case No. 12-10-29-1923-05, 12-10-29-1915-40, 12-10-29-1937-06) within 24 hours of becoming aware of the discharge. Since, October 29, 2012 untreated effluent is being discharged into the Raritan River as a result of the devastation to the mechanical and electrical equipment at each pump station. MCUA has been in constant communication with NJDEP regarding the upset and its corrective actions in substantially reducing the discharge of untreated wastewater to the Raritan River to minimize any threats to human health or the environment.

Pursuant to N.J.A.C. 7:14A-6.10, MCUA was properly operating the facility at the time Hurricane Sandy occurred; and the MCUA has informed the NJDEP of all remedial measures it has completed and complied with all remedial measures NJDEP has required since the storm and the destruction caused to its pumping stations.

Please contact Kevin Aiello or myself if you have any questions regarding this submission. Thank you again for your consideration.

Very truly yours,

Richard L. Fitamant
Executive Director

c: Donato J. Tanzi, P.E.,MCUA Wastewater Division Manager/Chief Engineer
Kevin T. Aiello, MCUA Administrator, Environmental Quality
Barbara Koonz, Esq., Wilentz, Goldman & Spitzer

HH. 9

As described or indicated previously in this chapter, the underground pipe presently owned by the MCUA is, for the most part, large diameter pipe. As such, it would be impractical for the Authority to maintain an inventory of spare pipe sections for each pipe diameter and material within the system. Furthermore, the cost to purchase and maintain equipment and machinery which would be necessary to excavate and replace a section of buried pipe for the size of the system would be prohibitive, especially since the use of such equipment would likely be very infrequent.

Accordingly, the Authority should make arrangements with a local contractor, experienced in sewer pipe installation, to affect major repairs or replacements of underground pipe, should the need arise. The pipe materials installed were selected to afford a long term life span before complete failure or deterioration were to occur.

The MCUA line crew shall be responsible for routine inspection and preventive maintenance of the regional trunk sewers, force mains, and miscellaneous appurtenances. The following summarizes the work to be done and its frequency.

All regional trunk sewers, together with manholes, should be visually inspected once each year. This practice should be scheduled as a part of the annual maintenance program throughout the life of the system.

Given in Chart 3-1 is a suggested form which should be used during this inspection. All data requested by the form must be furnished by the individuals performing the inspection.

The manhole frames and covers as well as the manhole steps should be inspected during the annual inspection of the pipelines. The structural condition of each should be noted on the inspection form and if replacement is warranted, a recommendation to do so should be made by the line crew personnel.

CHART 3-1

MIDDLESEX COUNTY UTILITIES AUTHORITY

Visual Inspection Observation Form

TRUNK SEWER DESIGNATION _____ DATE _____

MANHOLE NO. _____ INSPECTORS _____

MANHOLE LOCATION _____ TIME _____ AM/PM

WEATHER: SUNNY - FAIR - CLOUDY - SNOW - RAIN - SHOWERS - COLD - COOL - WARM - HUMID HOT

TEMPERATURE: _____ °F

MANHOLE INSPECTION

COVER: ACCESSIBLE _____ OR BURIED _____

TRAFFIC INTERFERENCE: HEAVY _____ OR LIGHT _____

REMARKS (SAFETY HAZARDS, ETC.) _____

_____

_____

COVER: SOLID _____ VENTILATED _____ LOCKED _____ BOLTED _____

REMARKS _____

FRAME: LOW _____ SHIFTED _____ CROOKED _____ LOOSE _____

REMARKS _____

STEPS: MISSING _____ BROKEN _____ WORN _____

REMARKS _____

CORBELL: PRECAST _____ BLOCK _____ BRICK _____ POOR JOINTS _____

LEAKING _____

REMARKS _____

BARREL: PRECAST _____ BLOCK _____ BRICK _____ POOR JOINTS _____

LEAKING _____

REMARKS _____

BENCH: POURED _____ BRICK _____ OTHER _____ POOR _____ MISSING _____ DIRTY _____

REMARKS _____

CHANNEL: POURED _____ BRICK _____ PIPE _____ POOR _____ MISSING _____ DIRTY _____

REMARKS _____

PIPE SIZE _____ " ACP _____ RCP _____ CAST IRON _____ PCCP _____ OTHER _____

REMARKS _____

DEPOSITIONS: DEBRIS _____ SLUDGE _____ SAND _____ GREASE _____ OTHER _____

REMARKS _____

OTHER REMARKS _____

_____

 SAMPLING INFORMATION ON OTHER SIDE

CHART 3-1 CONT.

MIDDLESEX COUNTY UTILITIES AUTHORITY

Visual Inspection Observation Form

LAMPING INSPECTION

SKETCH OF MANHOLE AND PIPES:

SHOW ANY NEARBY PONDING AREAS, STREAMS, OR OTHER POSSIBLE INFLOW SOURCES.

MAIN LINE
UPSTREAM:

FROM MH _____

SIZE _____

DEPTH OF FLOW _____

MATERIAL _____

CROOKED _____

OBSTRUCTED _____

DIRTY _____

REMARKS: _____

MAIN LINE
DOWNSTREAM:

TO MH _____

SIZE _____

DEPTH OF FLOW _____

MATERIAL _____

CROOKED _____

OBSTRUCTED _____

DIRTY _____

REMARKS: _____

Att. 10

M E M O R A N D U M

DATE: April 5, 1996 – REVISED 2/15/01 – **REVISED 2/6/2004**

TO: Shift Supervisors, A-Operators

FROM: V. Santamarina

CC: D. Tanzi, D. Maliszewski, R. Latham, F. Brzozowski

RE: Wet Weather S.O.P.

The following is our standard operating procedure for the primaries until further notice:

Maintain six primaries in service at all times until R. Latham or myself advise you otherwise. Primary tanks will only be taken down for emergency repairs and must be placed back in service as soon as possible.

The sluice gates for the final settling tanks should be adjusted as follows:

	Sluice Gate Opening	
Flow Range	"Old" Tanks	"New Tanks"
MGD	inches	inches
0 - 120	12	10
120 - 200	14	12
200 - 250	20	16
250 - 300	24	20
300 - 350	28	24
350 - 400	32	28

Please note that these numbers are guidelines when all 16 tanks are in service. If you have to close one or more tanks to control solids carryover, you will need to open the remaining ones more. Your target should be to maintain a minimum one foot drop from the UNOX tanks into the mixed liquor channel. I need feedback from all of you regarding these numbers as they may have to be adjusted based on actual operating experience. When making changes make sure the operator has some type of measuring device so all the tanks are set the same. Also, the operation of the gates for the Supplemental Outfall is totally independent of the sluice gates' settings. Opening the supplemental's gates more won't do anything to the level in the mixed liquor channel, it will just cause more water to go out through the supplemental instead of the regular outfall.

If you have any questions, please talk to me. Remember, the only dumb question is the one that doesn't get asked.

M E M O R A N D U M

DATE: April 5, 1996 – **REVISED 2/15/01**

TO: Shift Supervisors, A-Operators

FROM: V. Santamarina

RE: Wet Weather S.O.P.

The following is our standard operating procedure for the primaries during high flow periods:

Flow Range (MGD)	No. of Primaries in Service
0 - 150	4
150 - 250	5
250 and over	6

The above is assuming the empty tanks are on standby and not down due to ongoing repairs. You should place the tanks in service only if you expect the flow to be sustained or continue to increase throughout the day. Maintain the tanks in service until you are advised otherwise.

The sluice gates for the final settling tanks should be adjusted as follows:

	Sluice Gate Opening	
Flow Range MGD	"Old" Tanks inches	"New Tanks" inches
0 - 120	12	10
120 - 200	14	12
200 - 250	20	16
250 - 300	24	20
300 - 350	28	24
350 - 400	32	28

Please note that these numbers are guidelines when all 16 tanks are in service. If you have to close one or more tanks to control solids carryover, you will need to open the remaining ones more. Your target should be to maintain a minimum one foot drop from the UNOX tanks into the mixed liquor channel. I need feedback from all of you regarding these numbers as they may have to be adjusted based on actual operating experience. When making changes make sure the operator has some type of measuring device so all the tanks are set the same. Also, the operation of the gates for the Supplemental Outfall is totally independent of the sluice gates' settings. Opening the supplemental's gates more won't do anything to the level in the mixed liquor channel, it will just cause more water to go out through the supplemental instead of the regular outfall.

If you have any questions, please talk to me. Remember, the only dumb question is the one that doesn't get asked!

c D. Tanzi

R. Latham

that provides a specific and mandatory schedule for the construction of downstream facilities necessary for the elimination of the equalization tank.

7:14A-22.16 Capacity assurance program

(a) Whenever the committed flow reaches or exceeds 80 percent of the permitted capacity of a treatment works, the participating municipalities and/or sewerage authorities shall submit to the Department a program to be implemented in order to prevent an overloading of their facility or a violation of their NJPDES permit. This program shall include, but is not limited to, the following:

1. Implementation of water conservation measures;
2. Reduction of inflow and infiltration (I/I) where appropriate. Measures shall be taken, to the satisfaction of the Department, which appropriately identify the causes and course of corrective action within a specified time frame;
3. Implementation of measures to maximize treatment plant capacity at a minimum cost;
4. Construction of improvements;
5. Disconnection of roof leaders, sump pumps and other sources of inflow, from sanitary sewer lines and connect into storm sewer lines where storm sewers are available and to the extent feasible;
6. Submission, on a quarterly basis, of a completed WQM007 Form to the Municipal Finance and Construction Element, Bureau of Financing and Construction Permits, PO Box 425, Trenton, New Jersey 08625-0424; and
7. Preparation for the imposition of a self-imposed sewer connection ban, as required by N.J.A.C. 7:14A-22.17, in the event that it is anticipated that additional flows will result in violations of any pollutant parameter limits contained in the plant's NJPDES or NPDES permit.

(b) For treatment plants which are subject to excessive inflow and infiltration to the extent that NJPDES permit limits for flow are occasionally exceeded during wet months, the Department will consider issuing TWAs for additional flow if, in the sewerage authority's opinion, the affected sewage treatment plant can treat flows in excess of its permitted capacity and still maintain compliance with the pollutant limits specified in its NJPDES permit. In addition to the requirements in (a)1 through 7 above, the authority shall submit a detailed technical report demonstrating its findings and providing justification for the issuance of treatment works approvals for additional contributory flows.

1. The detailed technical report referenced in (b) above must contain a discussion of the following issues:
   i. The extent of inflow and infiltration;

ii. Dry weather treatment capacity at the plant;

iii. The plant's ability to treat additional flows;

iv. Water quality issues;

v. Status of the current NJPDES permit for the plant; and

vi. The effect that such a decision will have upon the discharge limitations contained in future NJPDES permits.

(c) If the participating municipalities and authorities do not comply with (a) above, then the Department may issue a warning notice. A warning notice shall require the sewerage authority or municipality to prepare and submit a program pursuant to N.J.S.A. 58:10A-6(h)(3) and (a) above, within 45 days of receipt of the notice.

(d) Upon approval by the Department of a program submitted pursuant to (a) or (b) above, the sewage authority and participating municipalities shall give public notice of the program in a manner designed to inform local residents, developers, local planning board and other affected persons. Such notice shall include at least the following information:

1. The name, mailing address and telephone number of the owner of the treatment works;

2. The permitted capacity of the treatment works;

3. The committed flow to the treatment works;

4. A statement that the treatment plant is approaching its permitted capacity and the possibility exists that a sewer connection ban will be imposed if the plant is unable to maintain compliance with its discharge limits; and

5. Description of the service area including the participating municipalities.

(e) In the event that the committed flow to a sewage treatment plant is at or above 100 percent of the plant's permitted capacity, and the Department determines that issues involved in (a), (b) or (c) above have not been appropriately addressed and that additional flows above the plant's permitted capacity may result in violations of their NJPDES permit, the Department may cease the further issuance of treatment works approvals for additional flow to the plant. In the event that such a decision is made, the Department, at its discretion, may grant exceptions for projects that require a TWA providing the project meets the sewer ban exemption criteria specified in N.J.A.C. 7:14A-12.22.

(f) Neither this section nor the provisions of N.J.A.C. 7:14A-22.17 shall apply to industrial treatment works that are direct dischargers to the waters of the State.

HH. 13

MIDDLESEX COUNTY UTILITIES AUTHORITY

List of City of Perth Amboy's Permitted Industrial Users

Facility	Average Permitted Flow (gal)	Maximum Permitted Flow (gal)	Current Average * Flow (gal)
Chemtura Corporation	170,800	355,000	59,633
Englert, Inc. mchl	5,000	15,000	5,850
Med-Apparel Services	67,000	78,000	52,396

* Average Flows reported in submitted SMRs from April 2013 to September 2013

Attachment 14

State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION
P.O. BOX 402
Trenton, NJ 08625-0402
TEL: # (609) 292-4860
FAX # (609) 984-7938

CHRIS CHRISTIE
Governor

BOB MARTIN
Commissioner

Richard L. Fitamant, Executive Director
Middlesex County Utilities Authority
2571 Main Street
PO Box 159
Sayreville, NJ 08872-0159

Re: Request for Stay
Category: A -Sanitary Wastewater
NJPDES Permit No. NJ0020141
Sayreville Boro, Middlesex County

Dear Mr. Fitamant:

The Department has received a letter dated March 26, 2010, requesting a stay of various limitations and monitoring requirements detailed below. The renewal permit was issued April 6, 2005, with an effective date of June 1, 2005 and an expiration date of May 31, 2010.

Issue #1—Water Quality Based Effluent Limitations (Arsenic, Cyanide and Chlorine Produced Oxidants (CPO)):

Middlesex County Utilities Authority (MCUA) requests a stay of the water quality based effluent limitations (Arsenic, Cyanide and CPO) contained in Table III-A-2. These limitations were calculated using the existing dilution numbers, derived from a 1990 study. MCUA had commented on these limitations during the draft permit public comment period in an October 15, 2004 letter from Francis X. Journick, Jr. Esq. of Wilentz, Goldman & Spitzer. In that letter, the Authority objected to the Department's use of the dilution factors. The Authority pointed out to the Department that the previous studies conducted did not adequately characterize local (near-field) dilution and resulted in erroneous dilution factors that do not reflect actual dilution occurring at the Authority's outfalls and were too stringent. Further, the Authority had planned to proceed with more detailed dilution studies for its two outfalls.

The Department responded in the Response to Comments document of the final permit that these dilution factors were appropriate to protect water quality and the surface water quality standards and that MCUA had the option to conduct revised dilution studies as a justification to recalculate those effluent limitations. Subsequently, the Department refused to change the proposed limitations since these limitations were not to become effective until EDP + 59 months (May 1, 2010), giving MCUA time to conduct and submit the required studies in time for the Department to propose revised limitations, if appropriate.

Since that time, MCUA has conducted a new model study of outfall 001A along with a second study to evaluate the potential benefits of alternate outfall configurations. The stay request letter states that a synopsis of these studies will be submitted to the Department in the near future.

Regarding CPO, the MCUA has indicated that it is in the process of evaluating the decay of CPO in the outfall. The results of this study could significantly affect the established CPO effluent limitations.

Regarding Cyanide, the Department calculated the limitation using the Total Cyanide data collected by the facility. The surface water quality criteria used in the calculations was for Free Cyanide. Thus, the Total Cyanide limitation was calculated using the incorrect criteria.

Response #1:

Given that MCUA had commented on the draft permit regarding these limitations and has been preparing to request a modification of these limitations through conducting dilution studies and a CPO decay study and that the derivation of the cyanide limitation is incorrect, the Department is GRANTING a stay in accordance with N.J.A.C. 7:14A-17 et seq. of the final phase arsenic, cyanide and CPO limitations contained in Part III, Table III-A-2. Additionally, the Special Reporting Requirements for Chlorine Produced Oxidants section in Part IV, section C. 3. c. have been stayed.

The stay of these limitations is effective May 1, 2010 and shall remain stayed until a final renewal permit is issued by the Department. The renewal permit will be issued in accordance with the public notice and comment procedures at N.J.A.C. 7:14A-15 et seq.

Issue #2—Acute Whole Effluent Toxicity (AWET) monitoring location:

The monitoring location for AWET is specified in the permit in Part IV, Section E. 5. c. During the Interim phase, AWET samples were to be collected prior to chlorination, since the facility did not dechlorinate. The permit required a WQBEL for CPO for the final phase, which would have allowed for AWET samples to be collected after the last treatment step, also as specified in Part IV. The stay letter requests to continue the current, Interim, practice of conducting AWET sampling prior to chlorination.

Response #2:

Given that the Department has stayed the final CPO limitation and the MCUA is chlorinating its effluent, the Department is GRANTING a stay in accordance with N.J.A.C. 7:14A-17 et seq. of the Final phase AWET monitoring location as specified in Part IV. Therefore, the AWET monitoring location for the final phase shall be prior to chlorination.

The stay of this requirement is effective May 1, 2010 and shall remain stayed until a final renewal permit is issued by the Department. The renewal permit will be issued in accordance with the public notice and comment procedures at N.J.A.C. 7:14A-15 et seq.

Please note that this stay affects only the Final phase AWET sampling location and the final AWET limitation is not affected by this stay and is effective as of May 1, 2010.

If you have questions or comments regarding this stay letter, please contact Joseph Mannick at (609) 292-4860.

Sincerely,

Pilar Patterson, Chief
Bureau of Surface Water Permitting

Enclosures

c: Central Bureau of Water Compliance and Enforcement
Central File/Administrative Record

Masterfile #: 12911; PI #: 47082

HH. 15

State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION
CENTRAL BUREAU OF WATER COMPLIANCE & ENFORCEMENT
Mail Code 44-03
P.O. Box 420
Trenton, NJ 08625
TEL: # (609) 292-3010
FAX # (609) 292-6450

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

BOB MARTIN
Commissioner

RECEIVED
Middlesex County Utilities Authority
NOV 27 2013
MIDDLESEX COUNTY
UTILITIES AUTHORITY
Environmental Quality

Richard L. Fitamant, Executive Director
Middlesex County Utilities Authority
P.O. Box 159
Sayreville, NJ 08872-0159

RE: Affirmative Defense Requests dated August 26, 2012, August 26, 2012, May 24, 2013, June 28, 2013 and July 30, 2013
Middlesex County Utilities Authority (MCUA)
NJPDES No. NJ0020141-DSW
Sayreville/Middlesex County

Dear Mr. Fitamant:

This letter serves as a response to MCUA's affirmative defense requests in letters dated August 26, 2012, August 26, 2012, May 24, 2013, June 28, 2013 and July 30, 2013.

In the August 26, 2012 letter, MCUA asserts the affirmative defense of "upset" for violations of the permit limitations for Fecal Coliform at outfall DSN 001A during the July 2012 monitoring period. MCUA's permit limitations for Fecal Coliform are 200 col/100 ml for the monthly geometric mean and 400 col/100 ml for the weekly geometric mean. MCUA reported a monthly geometric mean of 347 col/100 ml and a weekly geometric mean of 3,014 col/100 ml for Fecal Coliform for July 2012.

In the second letter dated August 26, 2012, MCUA asserts the affirmative defense of "upset" for the violations of the permit limitations for Fecal Coliform at outfall DSN 001A during the August 2012 monitoring period. MCUA reported a monthly geometric mean of 204 col/100 ml and weekly geometric mean of 12,051 col/100 ml for Fecal Coliform for August 2012.

Both of the August 26, 2012 letters state that an upset was caused by an unusually extended period of low influent flow which allowed nitrification to occur. This caused an excessive chlorine demand resulting in the Fecal Coliform violations. The Department has reviewed the August 26, 2012 letters and the supporting data submitted by MCUA and has determined that the circumstances surrounding the July 2012 and the August 2012 Fecal Coliform violations were beyond the reasonable control of MCUA. Therefore, MCUA is GRANTED an affirmative defense for the DSN 001A Fecal Coliform violations for the July 2012 and August 2012 monitoring periods.

In the letter dated May 24, 2013 MCUA asserts the affirmative defense of "upset" for the violations of the Total Suspended Solids (TSS) permit limitations at DSN 001 for the April 2013 monitoring period. MCUA's permit limitations for TSS are 30 mg/l for the monthly average concentration, 45 mg/l for the weekly average concentration, 16,692 kg/day for the monthly average loading and 25,038 kg/day for the weekly average loading. MCUA reported a monthly average concentration of 43 mg/l and a weekly average concentration of 64 mg/l for TSS for the monitoring period of April 2013. The reported values for the monthly and weekly averages for loading were in compliance with the permit limitations. MCUA states that the upset was caused by an unusually extended period of low influent flow which allowed nitrification to occur in the treatment plant.

The Department has reviewed the May 24, 2013 letter and the supporting data submitted by MCUA and has determined that the circumstances surrounding the April 2013 TSS violations were beyond the reasonable control of MCUA. Therefore, MCUA is GRANTED an affirmative defense for the DSN 001A TSS violations during the April 2013 monitoring period.

In the letter dated June 28, 2013, MCUA asserts the affirmative defense of "upset" for violations of their TSS permit limitations at DSN 001 for the May 2013 monitoring period. MCUA reported a monthly average concentration of 35 mg/l, a weekly average concentration of 69 mg/l and a weekly average loading of 29,792 kg/day for TSS for the monitoring period of May 2013. The reported monthly average for TSS loading was in compliance with the permit limitation. MCUA states that the upset was caused by erratic pump operations at the Sayreville Pump Station due to malfunctions of rehabilitated equipment which had been flooded with salt water during Hurricane Sandy. The erratic pump operations caused hydraulic surges which impacted settling in the primary tanks and the secondary clarifiers.

The Department has reviewed the June 28, 2013 letter and the supporting data submitted by MCUA and has determined that the circumstances surrounding the May 2013 TSS violations were beyond the reasonable control of MCUA. Therefore, MCUA is GRANTED an affirmative defense for the DSN 001A TSS violations during the May 2013 monitoring period.

In the letter dated July 30, 2013, MCUA asserts the affirmative defense of "upset" for the violations of the TSS permit limitations at DSN 001 for the June 2013 monitoring period. MCUA reported a monthly average concentration of 41 mg/l, a weekly average concentration of 75 mg/l, a monthly average loading of 23,928 kg/day and a weekly average loading of 53,838 kg/day for TSS for the monitoring period of June 2013. MCUA states that the upset was due to various operational issues including debris clogging the sludge withdrawal tubes of the secondary clarifiers. The debris accumulation was caused by unscreened temporary bypass pumping which occurred while pre-storm pumping capacity was being restored at the Sayreville Pump Station after Hurricane Sandy.

The Department has reviewed the July 30, 2013 letter and has determined that the circumstances surrounding the June 2013 TSS violations were beyond the reasonable control of MCUA. Therefore, MCUA is GRANTED an affirmative defense for the DSN 001A TSS violations during the June 2013 monitoring period.

It is understood that MCUA has developed Standard Operating Procedures (SOPs) in order to prevent future effluent violations due to nitrification in the treatment plant. You are requested to submit a copy of the SOPs to this office within thirty days of receipt of this letter.

If you have any questions regarding this issue, please contact Maureen Byrne of my staff at (609) 439-6389 or by email at maureen.byrne@dep.state.nj.us.

Very truly yours,

A. Raimund Belonzi, Chief

bc: Division file, Middlesex County Utilities Authority, NJ0020141

Water Compliance & Enforcement
Central Regional Office
Mail Code 44-03
P.O. Box 420
Trenton, NJ 08625-0420
Tel: (609) 292-3010 Fax: (609) 292-6493

☐ AFFIRMATIVE DEFENSE SUMMARY

Facility: Middlesex Cnty Ua (ID No.: 46606)
Activity: (Water) Affirmative Defense Review (ID No.: 130001)
Permit: NJ0020141 (ID No.: 46606
Hotline No.: 12-08-21-0958-49; 12-08-21-1005-09; 13-05-22-1702-09; 13-06-28-1339-21; 13-06-07-2352-11

Incident Summary

Please refer to the response to MCUA under the same grey bar.

Affirmative Defense Checklist

Yes	No	
		Requirements from N.J.A.C. 7:14-8.3
☑	☐	Facility was being operated without error.
☑	☐	Treatment facilities were properly designed.
☑	☐	Treatment facilities were adequate.
☑	☐	Adequate preventative maintenance exists.
☑	☐	There was careful and proper operation and maintenance.
☐	☐	**Special requirements for permitted groundwater remedial actions**
		It was the first violation of that permit limitation and the violation could not reasonably have been anticipated by the permittee.
		The violation was not the result of a negligent act or omission by the violator.
☐	☐	**Special requirements for Testing or Laboratory Error**
		The permittee demonstrated that the exceedance of an effluent limit was the result of unanticipated test interference, sample contamination, analytical defect, or procedural deficiencies in sampling or other similar circumstances beyond the violator's control.

		Notification Requirements
☑	☐	Permittee communicated the information required in N.J.A.C. 7:14A-6.10(d) to the **DEP Hotline within 24 hours** after the commencement of the discharge or of the permittee becoming aware of the discharge. Required information includes: Description of the discharge; Steps to determine the cause of the noncompliance; Duration of the discharge; Cause of the noncompliance; Steps being taken to reduce, eliminate, and prevent reoccurrence of the noncomplying discharge; Estimate of the threat to human health or the environment; and Measures taken to remediate the problem and any damage to human health or the environment.
☑	☐	Permittee communicated the information required in N.J.A.C. 7:14A-6.10(f) **in writing within 5 days** of the commencement of the discharge or of the permittee becoming aware of the discharge. **Required information for Upset includes:** Signed, contemporaneous operating logs, or other relevant evidence, on the circumstances of the noncompliance; Reasons that the upset occurred, including the identity of the person causing the upset. If the cause or the identity of the person causing the upset cannot be identified, a local agency may certify that a good faith effort was made to obtain such information; Evidence that the facility was properly operated at the time; Evidence of prior approval in the case of an upset resulting from maintenance operations; and Evidence that all remedial measures the Department required in the prior approval were complied with. **Required information for Unanticipated Bypass includes:** Reasons that the unanticipated bypass occurred;

		Evidence that the permittee was properly operating the facility; Permittee's rationale that the bypass was unavoidable; Evidence that there was no feasible alternative; and Evidence that the unanticipated bypass did not occur during normal periods of equipment downtime or preventative maintenance when when backup equipment should have been installed to prevent the unanticipated bypass.
☐	☐	**Required information for Anticipated Bypass includes:** Information submitted at least 10 days in advance of bypass; Exact dates and times of commencement and end of the bypass; Statement certifying that the permittee will properly operate the facility at the time of the bypass; Statement that the bypass is unavoidable to prevent loss of life, personal injury, or severe property damage; Statement that there is no feasible alternative; and Statement that the bypass will not occur at during normal periods of equipment downtime or preventative maintenance when when backup equipment should have been installed to prevent the unanticipated bypass.
☑	☐	ENTITLEMENT TO AFFIRMATIVE DEFENSE

Affirmative Defense Determination

Granted

Prepared By (Signature): Maureen Byrne Date Signed: 11/14/13

MIDDLESEX COUNTY UTILITIES AUTHORITY
MAIN OFFICES:
2571 MAIN STREET • P.O. BOX 159 • SAYREVILLE, NJ 08872-0159
(732) 721-3800 FAX: (732) 721-0206
MIDDLESEX COUNTY LANDFILL OFFICE:
53 EDGEBORO ROAD • EAST BRUNSWICK, NJ 08816-1636
(732) 246-4313 FAX: (732) 246-8846

RICHARD L. FITAMANT, EXECUTIVE DIRECTOR
MARGARET M. BRENNAN, COMPTROLLER
DONATO J. TANZI, WASTEWATER DIVISION
PAUL T. CLARK, SOLID WASTE DIVISION

April 24, 2014

REPLY TO:
☒ SAYREVILLE
☐ EAST BRUNSWICK

Rai Belonzi, Chief
Bureau of water Compliance and Enforcement
New Jersey Department of Environmental Protection
402 East State Street
Trenton, New Jersey 08625-0420

Re: Middlesex County Utilities Authority
NJPDES/DSW Permit No. NJ0020141
Sayreville/Middlesex County
Affirmative Defense/March 2014

Dear Mr. Belzoni:

As a follow up to the Middlesex County Utilities Authority (MCUA) Hot Line Notification (14-04-23-1530-14 Operator 57) of April 23, 2014 and pursuant to the non-compliance reporting requirements set forth in NJAC 7:14A-6.10 the MCUA asserts an affirmative defense for the Biochemical Oxygen Demand (BOD), Total Suspended Solids (TSS), Methylene Chloride and LC_{50} effluent excursions of its NJPDES permit which occurred in March 2014 due to a temporary upset/pass through of our Central Treatment Plant.

In accordance with NJAC 7:14A-6.10 the MCUA provides the following information in support of its affirmative defense:

1. MCUA operates a Wastewater Treatment Plant serving approximately 870,000 people and 1500 commercial/industrial facilities. The treated wastewater is discharged to the Raritan Bay and North Channel of the Raritan River.

2. During the period of March 29 through March 31, 2014 calculated seven day average concentrations for BOD were 27, 48 and 49 mg/l respectively, the calculated seven day averages for mass loading were 12026, 36773 and 38083 kg/day respectively. Of more importance, the monthly average concentration and mass loading for BOD did not exceed the permit limits set forth in the MCUA's NJPDES/DSW Permit.

3. During the period of March 29 through March 31, 2014 calculated seven day average concentrations for TSS were 66, 105 and 105 mg/l respectively, the calculated seven day averages for mass loading were 29321, 74962 and 77990 kg/day respectively and the monthly average concentration for TSS was 37 mg/l and the average monthly mass loading was 23538 kg/day.

4. During the period of March 16 through March 20, 2014, 24 hour composite samples were obtained on a daily basis to conduct a static renewal acute toxicity bioassay using Mysidopsis Bahia as the test organism. The test result obtained was LC50 of 65% with a 95% confidence Interval of 56.9/73.6. MCUA permit limit is LC50 of 67% or greater.

5. On March 19, 2014, a grab sample was taken during the Acute Bioassay sampling taken place from March 16 to March 20, 2014 and analyzed for volatile organics. The result obtained for Methylene Chloride was 185 ug/l and resulted in mass loading of 67481 grams/day. The MCUA permit limit is daily maximum of 101 ug/l and 56300 grams/day.

6. There were no indications of an adverse impact on the receiving waters of the Raritan Bay/Raritan River.

7. The MCUA operational staff initiated a review of plant operating processes, data and sampling equipment to verify laboratory results.

8. Based upon MCUA's investigation, the cause of the effluent excursions for BOD and TSS were due to a dramatic increase in wastewater flows entering the Central Treatment Plant during precipitation/snow melt events. The daily average influent flows on March 26, 27, 28, 29, 30 and 31 were 93.58, 99.67, 100.52, 128.02, 293.93 and 234.78 MGD respectively. These sudden increases in flow to the wastewater treatment plant temporarily diminished the efficiency of the final settling tanks which in turn impacted the BOD and TSS percent removals and daily effluent concentrations leading to the BOD seven day average concentrations and loading effluent excursions and TSS monthly and seven day average concentrations and loading effluent excursions.

9. The MCUA has reviewed the Acute Bioassay results obtained on its effluent from 2006 to March 2013. Attached is a tabulation and graph of the results indicating that the Acute Bioassay results have always been in compliance with the permit limit of LC50>67%. The LC50 acute toxicity bioassay excursion in March 2013 may have been attributed to a discharge of Methylene Chloride to Central Treatment Plant. During the effluent bioassay sampling, a grab sample obtained on March 19, 2014 at 8:45am was analyzed for Methylene Chloride and resulted in a concentration of 185 ug/l. Attached is a tabulation and graph of the Methylene Chloride results obtained during Acute Bioassay sampling since 2006 indicating the Methylene Chloride concentration was ten times greater than any other sample obtained since 2006. The MCUA is asserting an Affirmative Defense for the Acute Bioassay and Methylene Chloride permit excursion due to a temporary and extremely infrequent discharge of Methylene Chloride to its Central Treatment Plant that was beyond its reasonable control. As the Department is fully

aware, the MCUA has in place since 1984 an approved NJDEP Industrial Pretreatment program that has been successful in controlling and reducing the discharge of pollutants to its Central Treatment Plant. The Industrial Pretreatment Program staff has initiated an investigation to determine the potential source of the Methylene Chloride discharge which may have caused the elevated concentration at the Central Treatment Plant on March 19, 2014.

10. This unintentional and temporary non-compliance of the MCUA NJPDES/DSW permit limitations were caused by events beyond the reasonable control of the MCUA staff.

If you have any questions regarding this matter or require further information please contact me at (732) 721-3800.

Very truly yours,

Richard L. Fitamant
Executive Director

C: Maureen Byrne, NJDEP
Donato J. Tanzi, P.E., Wastewater Division Manager/Chief Engineer
Kevin Aiello, Administrator Environmental Quality
Victor Santamarina, Plant Superintendent
Robert Latham, Operations Superintendent

MIDDLESEX COUNTY UTILITIES AUTHORITY
MAIN OFFICES:
2571 MAIN STREET • P.O. BOX 159 • SAYREVILLE, NJ 08872-0159
(732) 721-3800 FAX: (732) 721-0206
MIDDLESEX COUNTY LANDFILL OFFICE:
53 EDGEBORO ROAD • EAST BRUNSWICK, NJ 08816-1636
(732) 246-4313 FAX: (732) 246-8846

RICHARD L. FITAMANT, EXECUTIVE DIRECTOR
MARGARET M. BRENNAN, COMPTROLLER
DONATO J. TANZI, WASTEWATER DIVISION
PAUL T. CLARK, SOLID WASTE DIVISION

March 27, 2014

REPLY TO:
☒ SAYREVILLE
☐ EAST BRUNSWICK

Rai Belonzi, Chief
Bureau of water Compliance and Enforcement
New Jersey Department of Environmental Protection
402 East State Street
Trenton, New Jersey 08625-0420

Re: Middlesex County Utilities Authority
NJPDES/DSW Permit No. NJ0020141
Sayreville/Middlesex County
Affirmative Defense/February 2014

Dear Mr. Belzoni:

As a follow up to the Middlesex County Utilities Authority (MCUA) Hot Line Notification (14-03-27-2115-00 Operator 35) of March 27, 2014 and pursuant to the non-compliance reporting requirements set forth in NJAC 7:14A-6.10 the MCUA asserts an affirmative defense for the Total Suspended Solids (TSS) effluent excursions of its NJPDES permit which occurred in February 2014 due to a temporary upset of our Central Treatment Plant.

In accordance with NJAC 7:14A-6.10 the MCUA provides the following information in support of its affirmative defense:

1. MCUA operates a Wastewater Treatment Plant serving approximately 870,000 people and 1500 commercial/industrial facilities. The treated wastewater is discharged to the Raritan Bay and North Channel of the Raritan River. During the period of February 7 through February 10, 2014 calculated seven day average concentrations for TSS were 61, 55, 49 and 46 respectively, the calculated seven day averages for mass loading for the period of February, 7 through February 11, 2014 were 30704, 28812, 27037, 25907, and 25299 kg/d respectively. Of more importance, the monthly average concentration and mass loading for TSS did not exceed the permit limits set forth in the MCUA's NJPDES/DSW Permit. Furthermore, there were no indications of an adverse impact on the receiving waters of the Raritan Bay/Raritan River.

2. The MCUA operational staff initiated a review of plant operating processes, data and sampling equipment to verify laboratory results.

3. Based upon MCUA's investigation, the cause of the effluent excursions for TSS were due to a dramatic increase in wastewater flows entering the Central Treatment Plant for the periods of TSS permit excursions due to precipitation/snow melt events. The influent flows on February 4, 5, 6, 20, 21, 22 and 23 were 104.44, 161.54, 164.87, 152.75, 194.64, 215.54 and 198.34 respectively. These sudden increases in flow to the wastewater treatment plant temporarily diminished the efficiency of the final settling tanks which in turn impacted the TSS percent removals and daily TSS effluent concentrations leading to the seven day average concentration and loading effluent excursions.

4. This unintentional and temporary non-compliance of the MCUA NJPDES/DSW permit limitations were caused by events beyond the reasonable control of the MCUA staff.

If you have any questions regarding this matter or require further information please contact me at (732) 721-3800.

Very truly yours,

Richard L. Fitamant
Executive Director

C: Maureen Byrne, NJDEP
Donato J. Tanzi, P.E., Wastewater Division Manager/Chief Engineer
Kevin Aiello, Administrator Environmental Quality
Victor Santamarina, Plant Superintendent
Robert Latham, Operations Superintendent

MIDDLESEX COUNTY UTILITIES AUTHORITY
MAIN OFFICES:
2571 MAIN STREET • P.O. BOX 159 • SAYREVILLE, NJ 08872-0159
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RICHARD L. FITAMANT, EXECUTIVE DIRECTOR
MARGARET M. BRENNAN, COMPTROLLER
DONATO J. TANZI, WASTEWATER DIVISION
PAUL T. CLARK, SOLID WASTE DIVISION

REPLY TO:
☑ SAYREVILLE
☐ EAST BRUNSWICK

February 20, 2014

Rai Belonzi, Chief
Bureau of Water Compliance and Enforcement
New Jersey Department of Environmental Protection
401 East State Street
PO Box 422
Trenton, NJ 08625-0422

Re: Middlesex County Utilities Authority
NJ0020141
Sayreville/Middlesex County
Affirmative Defense

Dear Administrator:

As a follow up to the Middlesex County Utilities Authority (MCUA) Hot Line Notification (14-02-20-1035-07 Oper. #25) of February 20, 2014 and pursuant to the non-compliance reporting requirements set-forth in NJAC 7:14A-6.10 the MCUA asserts an affirmative defense for TSS effluent concentration excursion of its NJPDES permit which occurred in January 2014 due to a temporary upset of our Central Treatment Plant operation.

In accordance with NJAC 7:14A-6.10 the MCUA provides the following information in support of its affirmative defense:

1. MCUA operates a Wastewater Treatment plant serving approximately 750,000 people and 1,500 industrial/commercial facilities. The treated wastewater is discharged to the Raritan Bay/River. On January 30 & 31, 2014 the calculated seven-day average concentration for TSS for each day was 50 mg/l and the monthly average concentration was 33 mg/l. Of more importance, the maximum seven-day average and monthly average mass loadings for TSS ***did not exceed*** the permit limits set forth in the Authority's NJPDES/DSW permit. Thus, there was no indication of an adverse impact to the receiving waters.

2. The MCUA operational staff initiated a review of all plant operating process, data and sampling equipment to verify laboratory results.

3. Based upon MCUA's investigation to date, the cause of the effluent excursions for TSS were due to the increase in wastewater flows entering the CTP during precipitation/snow melt events and extreme cold weather impacting TSS removal efficiency.

4. This unintentional and temporary non-compliance of the Authorities NJPDES permit limitations were caused by events beyond the reasonable control of the Authority staff.

If you have any questions regarding this matter or require any further information please contact me at (732) 721-3800.

Very truly yours,

Richard L. Fitamant
Executive Director

c: Maureen Byrne, NJDEP
Donato Tanzi, Chief Engineer/WWD Manager
Kevin Aiello, Admin. Environ. Quality
Victor Santamarina, Plant Superintendent
Robert Latham, Operations Superintendent

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MIDDLESEX COUNTY UTILITIES AUTHORITY

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RICHARD L. FITAMANT, EXECUTIVE DIRECTOR
MARGARET M. BRENNAN, COMPTROLLER
DONATO J. TANZI, WASTEWATER DIVISION
PAUL T. CLARK, SOLID WASTE DIVISION

REPLY TO:
☑ SAYREVILLE
☐ EAST BRUNSWICK

March 1, 2013

Rai Belonzi, Chief
Bureau of Water Compliance and Enforcement
New Jersey Department of Environmental Protection
401 East State Street
PO Box 420
Trenton, New Jersey 08625-0420

Re: Affirmative Defense
Middlesex County Utilities Authority
NJPDES NJ 0020141
Sayreville/Middlesex County
Sayreville Pump Station
Hurricane Sandy/October 29, 2012

Dear Mr. Belzoni:

As a follow up to the Middlesex County Utilities Authority (MCUA) Hot Line Notification (13-01-26-1837-51 Operator. 41) of January 26, 2013 and pursuant to the non-compliance reporting requirements set forth in NJAC 7:14A-6.10 and the provisions of NJAC 7:14A-6.11 and 7:14-8.[illegible] the Middlesex County Utilities Authority (MCUA) asserts an Affirmative Defense for an unanticipated bypass of untreated wastewater to the grounds and storm sewers at the Sayreville Pump Station.

In accordance with NJAC 7:14A-6.10 the MCUA provides the following information in support of its affirmative defense:

1. MCUA operates a Wastewater Treatment Plant (WWTP) and five large pumping stations serving approximately 800,000 people along with industrial and commercial facilities within its service area. The treated wastewater is discharged to the Raritan Bay/River.

2. The unanticipated bypass occurred during the repairs to a cracked gate valve on the discharge piping for Temporary Bypass Pump No. 1-1. As the Department is fully aware the MCUA has installed Four (4) Temporary Bypass Pumping Systems to convey wastewater from its Hurricane Sandy damaged Sayreville Pump Station to the Central Treatment Plant. These systems remain in stand-by mode until needed to convey wastewater to the Central Treatment Plant in excess of the pumping capacity of the Main Pumps that are in place and operational.

3. It is estimated 1000 to 2000 gallons was discharged from the cracked gate valve. Initially it landed on the grass and then overflowed to the street that drained into the storm sewer. Not all of the estimated volume reached the storm sewer.

If you have any questions or wish to meet with MCUA representatives concerning this request for an affirmative defense, please contact Kevin Aiello or myself at (732) 721-3800.

Very truly yours,

Richard L. Fitamant
Executive Director

C: Maureen Byrne, NJDEP
Barbra Koonz, Esq. Wilentz, Goldman & Spitzer
Donato Tanzi, Wastewater Division Manager/Chief Engineer
Kevin T. Aiello, Administrator Environmental Quality